

L1 STRUCTURE UPLOADED

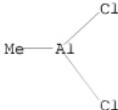
=> d his

(FILE 'HOME' ENTERED AT 21:59:15 ON 28 MAR 2008)

FILE 'REGISTRY' ENTERED AT 22:00:43 ON 28 MAR 2008
L1 STRUCTURE UPLOADED

=> d l1

L1 HAS NO ANSWERS
L1 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l1 full

FULL SEARCH INITIATED 22:01:10 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 6578 TO ITERATE

100.0% PROCESSED 6578 ITERATIONS 158 ANSWERS
SEARCH TIME: 00.00.01

L2 158 SEA SSS FUL L1

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FILE LAST UPDATED: 27 Mar 2008 (20080327/ED)

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=> s 12/prep
521 L2
4549398 PREP/RL
L3 90 L2/PREP
(L2 (L) PREP/RL)

=> s 13 and py<=2003
23980118 PY<=2003
L4 79 L3 AND PY<=2003

=> s 14 and aluminum metal
1027344 ALUMINUM
1819660 METAL
2219 ALUMINUM METAL
(ALUMINUM(W)METAL)
L5 0 L4 AND ALUMINUM METAL

=> s 14 and metallic aluminum
288098 METALLIC
1027344 ALUMINUM
704 METALLIC ALUMINUM
(METALLIC(W)ALUMINUM)
L6 0 L4 AND METALLIC ALUMINUM

=> d 14 1-79 bib abs

L4 ANSWER 1 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2003:752416 CAPLUS
DN 140:406839
TI Metallated triphenylphosphinimine complexes
AU Wei, Pingrong; Chan, Katie T. K.; Stephan, Douglas W.
CS Department of Chemistry & Biochemistry, University of Windsor, Windsor,
ON, N9B3P4, Can.
SO Dalton Transactions (2003), (19), 3804-3810
CODEN: DTARAF; ISSN: 1477-9226
PB Royal Society of Chemistry
DT Journal
LA English
OS CASREACT 140:406839
AB Transmetalation of N-substituted 2-lithiotriphenylphosphine imine complexes with boron, aluminum and gallium halides afforded corresponding o-metallated triphenylphosphine imide complexes. The reagent [(o-C₆H₄PPh₂NSiMe₃)Li]₂·Et₂O (1) reacted with BC₁₃ affording (o-C₆H₄PPh₂:NSiMe₃)BC₁₂ (4). Similarly reaction of 1 with Me₂AlCl resulted in a 1:1 mixture of (o-C₆H₄PPh₂:NSiMe₃)AlMe₂ (5) and (o-C₆H₄PPh₂NSiMe₃)Al(Me)Cl (6) while the analogous reaction of 1 with GaCl₃ gave (o-C₆H₄PPh₂:NSiMe₃)₂Ga(o-C₆H₄PPh₂NH) (7). The analogous compound [Li(o-C₆H₄PPh₂:NPh)]₂·Et₂O (2) was used to make (o-C₆H₄PPh₂:NPh)GaCl₂ (8), while reaction of 2 with Me₂AlCl gave a mixture of [(o-C₆H₄PPh₂:NPh)AlCl₂] (9) and the salt [(o-C₆H₄PPh₂:NPh)2Al][AlMeCl₃] (10). The compound 2 also reacts with PdCl₂(COD) affording [Pd(o-C₆H₄PPh₂:NPh)(μ-Cl)]₂ (11) and [Pd(o-C₆H₄PPh₂:NPh)₂] (12). Similarly, the complexes [Ni(o-C₆H₄PPh₂:NPh)₂] (13) and [Ni(o-C₆H₄PPh₂:N(3,5-C₆H₃Me₂))₂] (14) were prepared. The compds. 4-14 were structurally characterized by x-ray crystallog.
RE.CNT 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2003:267298 CAPLUS
DN 139:6977

TI Salts of the Cation $[(\text{Cp}^*\text{Cr})_4(\mu\text{-Cl})_3(\mu\text{-CH}_2)_3\text{AlMe}]^+$ with the Oxo- and Methine-Based Aluminum Anions $[(\text{Me}_2\text{Al})_2(\mu\text{-CH})(\text{AlCl}_2\text{Me})_2]^-$ and $[(\text{Me}_2\text{Al})(\mu_3\text{-O})(\text{AlCl}_2\text{Me})(\text{AlMe}_2\text{Cl})]^-$
AU Wei, Pingrong; Stephan, Douglas W.
CS Department of Chemistry and Biochemistry, University of Windsor, Windsor, ON, N9B 3P4, Can.
SO Organometallics (2003), 22(10), 1992-1994
CODEN: ORGND7; ISSN: 0276-7333
PB American Chemical Society
DT Journal
LA English
OS CASREACT 139:6977
AB Reactions of $(\text{Cp}^*\text{CrCl}_2)_2$ (1) and $\text{Cp}^*\text{Cr}(\text{HNP-i-Pr}_3)\text{Cl}_2$ (3) with excess AlMe_3 gave $[(\text{Cp}^*\text{Cr})_4(\mu\text{-Cl})_3(\mu\text{-CH}_2)_3\text{AlMe}]^+(\text{Me}_2\text{Al})(\mu_3\text{-O})(\text{AlCl}_2\text{Me})(\text{AlMe}_2\text{Cl})]^-$ (2) and $[(\text{Cp}^*\text{Cr})_4(\mu\text{-Cl})_3(\mu\text{-CH}_2)_3\text{AlMe}]^-(\text{Me}_2\text{Al})_2(\mu\text{-CH})(\text{AlCl}_2\text{Me})_2]^-$ (4), resp. Although the cations are the same, the former salt has a Al_3O -based anion, whereas the latter contains an Al_4 -methine anion.
RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2003:235302 CAPLUS
DN 139:158939
TI Synthesis of amino- and amido-aluminium derivatives and investigation of their dynamics in solution
AU Passarelli, Vincenzo; Carta, Giovanni; Rossetto, Gilberto; Zanella, Pierino
CS ICIS, CNR, Padua, Italy
SO Dalton Transactions (2003), (7), 1284-1291
CODEN: DTARAF; ISSN: 1477-9226
PB Royal Society of Chemistry
DT Journal
LA English
OS CASREACT 139:158939
AB The salts $\text{Li}[\text{Al}(\text{C}_4\text{H}_8\text{N})_4]\cdot n\text{C}_4\text{H}_8\text{NH}$ ($n = 1, 2$; $\text{C}_4\text{H}_8\text{NH}$ = pyrrolidine) were prepared and characterized in solution by ^1H -, ^{13}C - and ^{27}Al -NMR spectroscopy. Their reaction with AlCl_3 (Cl/Li molar ratio = 3) affords the binary amido derivative $[\text{Al}(\text{C}_4\text{H}_8\text{N})_3]^2$, which, on turn, is reactive towards AlX_3 , yielding $[\text{AlX}_2(\text{C}_4\text{H}_8\text{N})]^2$ ($\text{X} = \text{Cl}$, CH_3). Binuclear $[\text{AlY}_2(\text{C}_4\text{H}_8\text{N})]^2$ ($\text{Y} = \text{Cl}$, CH_3 , $\text{C}_4\text{H}_8\text{NH}$) react with $[\text{NH}_2\text{Et}_2]^2\text{Cl}$ affording the amine complexes $\text{AlY}_2\text{Cl}(\text{C}_4\text{H}_8\text{N})^n$ ($\text{Y} = \text{CH}_3$, $n = 1$; $\text{Y} = \text{Cl}$, $n = 1, 2$). Alternatively, the monochloro species $\text{AlMe}_2\text{Cl}(\text{C}_4\text{H}_8\text{N})$ results from the reaction of $\text{AlMe}_3(\text{C}_4\text{H}_8\text{N})$ and $\text{AlCl}_3(\text{C}_4\text{H}_8\text{N})$ (CH_3/Cl molar ratio = 2). The dichloro-Me derivative $\text{AlMeCl}_2(\text{C}_4\text{H}_8\text{N})$ was obtained by reacting $\text{AlMe}_3(\text{C}_4\text{H}_8\text{N})$ and $\text{AlCl}_3(\text{C}_4\text{H}_8\text{N})$ (Cl/CH_3 molar ratio = 2). The Lewis adducts $\text{AlCl}_3(\text{amine})^n$ (amine = pyrrolidine, $n = 1, 2$; amine = $\text{N},\text{N},\text{N}'$ -trimethylpropanediamine, $n = 1$) were isolated when AlCl_3 was contacted with the stoichiometric amount of the amine. At variance with $\text{N},\text{N},\text{N}'$ -trimethylpropanediamine, $\text{N},\text{N},\text{N}'$ -trimethylene diamine and $\text{N},\text{N},\text{N}',\text{N}'$ -tetramethylene diamine react with AlCl_3 yielding the salt derivs. $[\text{AlCl}_2(\text{amine})_2][\text{AlCl}_4]$. The dynamic processes of the coordinated amine ligands of $\text{AlCl}_3(\text{amine})^n$ (amine = pyrrolidine, $n = 1, 2$; amine = $\text{N},\text{N},\text{N}'$ -trimethylpropanediamine, $n = 1$) and $[\text{AlCl}_2(\text{amine})_2][\text{AlCl}_4]$ (amine = $\text{N},\text{N},\text{N}',\text{N}'$ -tetramethylene diamine) were studied in solution by NMR spectroscopy.
RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

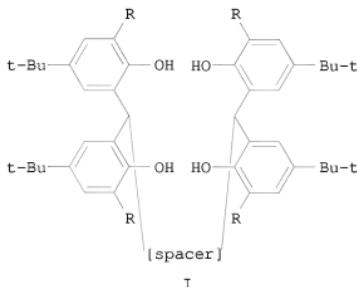
L4 ANSWER 4 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2003:139808 CAPLUS
DN 138:321313
TI Synthesis and Characterization of Organoaluminum Silylamido Complexes

AU Carmalt, Claire J.; Mileham, John D.; White, Andrew J. P.; Williams, David J.
CS Department of Chemistry Christopher Ingold Laboratories, University College London, London, WC1H 0AJ, UK
SO Organometallics (2003), 22(7), 1554-1557
CODEN: ORGND7; ISSN: 0276-7333
PB American Chemical Society
DT Journal
LA English
OS CASREACT 138:321313
AB The reaction between [Me₂AlCl] and 1 equiv of HN(SiMe₂H)₂ in CH₂Cl₂ afforded colorless crystals of [cyclic] [Cl(Me)Al(NH(SiMe₂H))]₂ (1). The structure of compound 1 has been determined and shows that the bridging NH(SiMe₂H) groups adopt a mutually trans arrangement. The related reaction between [Me₂AlCl] and 1 equivalent of HN(SiMe₂Ph)₂ in CH₂Cl₂ solution resulted in the isolation of colorless crystals. An x-ray crystallographic study showed that the crystals consist of a mixture of [Cl(Me)Al(NH(SiMe₂Ph))]₂ (2) and [Cl₂(Me)Al(NH(SiMe₂Ph))₂] (3) in a 1:4 ratio. The formation of compound 3 involves the exchange of one of the Me groups attached to the aluminum atom with a chlorine atom.
RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:558483 CAPLUS
DN 137:328202
TI A study on the thermal properties and the solid state pyrolysis of the Lewis acid/base adducts [X₃M-N(SnMe₃)₃] (X = Cl, Br; M = Al, Ga, In) and [Cl₂Me_M-N(SnMe₃)₃] (M = Al, Ga) as molecular precursors for group 13 nitride materials
AU Cheng, Q. M.; Stark, O.; Stowasser, F.; Wohlfart, A.; Fischer, R. A.
CS Lehrstuhl fuer Anorganische Chemie II - Organometallics & Materials Chemistry, Ruhr-Universitaet Bochum, Bochum, D-44780, Germany
SO Journal of Materials Chemistry (2002), 12(8), 2470-2474
CODEN: JMACEP; ISSN: 0959-9428
PB Royal Society of Chemistry
DT Journal
LA English
AB The Lewis acid/base adducts [X₃M-N(SnMe₃)₃] (compds. 1-3: X = Cl, Br; M = Al, Ga, In) and [Cl₂Me_M-N(SnMe₃)₃] (compound 4: M = Al, compound 5: M = Ga) were studied as precursors for group 13 nitride materials. The compds. were prepared by the 1:1 mol reaction of MX₃ and MC₂Me with N(SnMe₃)₃ at room temperature in di-Et ether and crystallized from CH₂Cl₂ at -20°C. As shown by thermal anal. and the anal. of the volatile byproducts, the precursors of the type [X₃M-N(SnMe₃)₃] decompose between 100 and 350°C predominantly in two steps via dehalostannylation by partly releasing Me₃SnCl. Polycryst. powders of AlN, GaN and InN were obtained after prolonged pyrolysis under inert conditions (argon, and *in vacuo*) at >350°C and were contaminated with metallic tin according to the X-ray powder diffraction patterns. The pyrolysis of the organometallic precursors [Cl₂Me_M-N(SnMe₃)₃] (preceramic compds. 4 and 5) yielded tin-free nitride materials at <350°C due to the parallel elimination of SnMe₄ and Me₃SnCl, as evidenced by X-ray powder diffraction, elemental anal., NMR and IR spectroscopy of the products.
RE.CNT 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:556601 CAPLUS
DN 137:263089

TI Synthesis and Reactivity of Bi-, Tri-, and Tetrametallic Aluminum Tetraphenolate Complexes
AU Cottone, Andrew, III; Scott, Michael J.
CS Department of Chemistry and Center for Catalysis, University of Florida, Gainesville, FL, 32611-7200, USA
SO Organometallics (2002), 21(17), 3610-3627
CODEN: ORGND7; ISSN: 0276-7333
PB American Chemical Society
DT Journal
LA English
OS CASREACT 137:263089
GI



AB A series of ligands, each with four phenoxide arms, have been prepared with the intent to place two Lewis acidic metal center in close proximity and thus foster cooperative binding of external Lewis bases. The ligands, I [1-5; spacer = anthracene, R = t-Bu (1H4), spacer = dibenzofuran, R = t-Bu (2H4), spacer = xanthene, R = t-Bu (3H4), spacer = dibenzofuran, R = Me (4H4), spacer = anthracene, R = iPr (5H4)], incorporate a pair of 2,2'-methylenebis(4-tert-butyl-6-alkylphenol) groups linked by three different spacers: anthracene (1H4, 5H4), dibenzofuran (2H4, 4H4), and xanthene (3H4). The reaction of 1H4 and 2H4 with trimethylaluminum led to the formation of the C2-sym., tetranuclear aluminum compd. [(1)Al4Me8], 6, and [(2)Al4Me8], 7, resp. In contrast, when 3H4 was treated with trimethylaluminum, a binuclear aluminum species, [(3)Al2Me2], 8, containing an Al2O2 bridging unit, was isolated. Heating solns. of the tetranuclear complexes 6 and 7 in the presence of excess ligand induced the elimination of 2 equivalent of trimethylaluminum and afforded the binuclear aluminum complexes [(1)Al2Me2], 9, and [(2)Al2Me2], 10. Addition of NEt4Cl to solns. of 9 and 10 resulted in the isolation of the anionic, bimetallic aluminum species [NEt4](1)Al2Me2Cl], 11, and [NEt4](2)Al2Me2Cl], 12. Both complexes contain a sym. chloride bridge between the two metal centers. In contrast, the reaction of NEt4Cl with 8 produced the asym. dianionic compound [NEt4]2[(3)Al2Me2Cl2], 13. Compound 9 reacts with sodium phenoxide to afford [(1)Al2Me2(OPh)Na(OEt2)], 14, and this species contains a six-membered NaAl2O3 ring. When ketones or aldehydes are added to 9, the two aluminum centers in the resulting product each bind a carbonyl group in an η 1 fashion. For example, the reaction of α, α, α -trimethylacetophenone with 9 produced the C2-sym. complex [(1)[AlMe(OC11H14)]2], 15, while 10, upon addition of cyclopentanone, afforded the asym., monometallic species [(2H)Al(OC5H8)], 16, with one free phenolic arm. The three remaining phenoxide groups in 16 all

coordinate to the lone aluminum. To probe the influence of the steric environment of the ligand on the reactivity, Me groups were incorporated at the ortho-position of the phenoxide, and this ligand, 4H4, reacted with trimethylaluminum to produce the trinuclear species [(4)Al3Me5]1, with a stabilizing six-membered Al3O3 bridge. The slightly more sterically encumbered isopropyl-substituted ligand, 5H4, formed the binuclear aluminum species [(5)Al2Me2]18, analogous to 8, 9, and 10. Addition of benzaldehyde to 18 afforded the asym. binuclear species [(5)[AlMe][AlMe(OCHPh)]]19, and the benzaldehyde substrate coordinates to only one aluminum in this complex. The crystal structures of all the compds. prepared were determined

RE.CNT 77 THERE ARE 77 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 7 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:527073 CAPLUS
DN 137:384917
TI Lewis base properties of tris(trimethylstannyl)amine: unusually short M-N bonds of the adduct compounds [X3M-N(SnMe3)3] (X = Cl, Br; M = Al, Ga, In) and [Cl2(CH3)M-N(SnMe3)3] (M = Al, Ga)
AU Cheng, Q. M.; Stark, O.; Merz, K.; Winter, M.; Fischer, R. A.
CS Lehrstuhl fuer Anorganische Chemie II - Organometallics & Materials Chemistry, Ruhr-Universitaet Bochum, Bochum, D-44780, Germany
SO Journal of the Chemical Society, Dalton Transactions (2002), (14), 2933-2936
CODEN: JCSDDA; ISSN: 1472-7773
PB Royal Society of Chemistry
DT Journal
LA English
AB The Lewis acid/base adducts [X3M-N(SnMe3)3] (1a: M = Al, X = Cl; 2a: M = Ga, X = Cl; 2b: M = Ga, X = Br; 3a: M = In, X = Cl; 3b: M = In, X = Br) and [Cl2MeM-N(SnMe3)3] (1b: M = Al, 2c: M = Ga) were prepared by 1 : 1 mol reaction of MX3 and MC12Me with N(SnMe3)3 at room temperature in di-Et ether and crystallized from dichloromethane at -20°. The new compds. were fully characterized by elemental anal., NMR spectroscopy and single crystal x-ray diffraction. Unusually short M-N bond lengths of 1.87(1) Å for Al-N (1a), 1.950(7) Å for Ga-N (2a) and 2.148(6) Å for In-N (3a) were found indicating very strong donor-acceptor bonds.
RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 8 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:306300 CAPLUS
DN 137:33402
TI One-Pot Synthesis of (η 6-Arene)bis(triphenylphosphine)(methyl)ruthenium(II) Cations. X-ray Structures of [(η 6-C6H6)Ru(Me)(PPh3)2][AlC12Me2] and the η 5-Thiophene Analogue
AU Fang, Xinggao; Watkin, John G.; Scott, Brian L.; John, Kevin D.; Kubas, Gregory J.
CS Chemistry Division, Los Alamos National Laboratory, Los Alamos, NM, 87545, USA
SO Organometallics (2002), 21(11), 2336-2339
CODEN: ORGND7; ISSN: 0276-7333
PB American Chemical Society
DT Journal
LA English
OS CASREACT 137:33402
AB The authors report 1-pot syntheses for complexes [η 6-arene]RuIMe(PPh3)2][AlC12Me2] in high yields and x-ray structures of the η 6-C6H6 and η 5-thiophene derivs. Other derivs. include fluorobenzene and mesitylene complexes, and all of the complexes were

synthesized by addition of AlMe₃ to RuCl₂(PPh₃)₃ in the neat arene solvent or in an admixt. with hexane for thiophene and fluorobenzene. The crystal and mol. structures of [(arene)Ru(Me)(PPh₃)₂][AlCl₂Me₂][·]CH₂Cl₂ (arene = η^6 -benzene, η^5 -thiophene) were determined by x-ray crystallog.

RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 9 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2001:746733 CAPLUS
DN 138:321349
TI Carbon-carbon bond formation via oxidative-addition processes of titanium(II) reagents with π -bonded organic substrates. Reactivity modifications by Lewis acids and Lewis bases. Part 22. Organic chemistry of subvalent transition metal complexes. [Erratum to document cited in CA135:107419]
AU Eisch, J. J.; Gitua, J. N.; Otieno, P. O.; Shi, X.
CS Department of Chemistry, The State University of New York at Binghamton, Binghamton, NY, 13902-6016, USA
SO Journal of Organometallic Chemistry (2001), 634(2), 214
CODEN: JORCAI; ISSN: 0022-328X
PB Elsevier Science S.A.
DT Journal
LA English
AB On page 233, Section 2.2.3, paragraph 2, lines 9-10, the word "benzpinacol" should be "benzopinacole". On page 237, Section 5.6, line 5, the phrase "... to consist of 95% cis-stilbene, 5% of..." should be written as "... to consist of 95% benzhydrol, 3% of...". On page 237, Section 5.6, line 6, the phrase "... and <1% of benzpinacol and..." should be written as "... and <2% of benzopinacole and...".

L4 ANSWER 10 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2001:295197 CAPLUS
DN 135:107419
TI Carbon-carbon bond formation via oxidative-addition processes of titanium(II) reagents with π -bonded organic substrates. Reactivity modifications by Lewis acids and Lewis bases Part 22. Organic chemistry of subvalent transition metal complexes
AU Eisch, J. J.; Gitua, J. N.; Otieno, P. O.; Shi, X.
CS Department of Chemistry, The State University of New York at Binghamton, Binghamton, NY, 13902-6016, USA
SO Journal of Organometallic Chemistry (2001), 624(1-2), 229-238
CODEN: JORCAI; ISSN: 0022-328X
PB Elsevier Science S.A.
DT Journal
LA English
OS CASREACT 135:107419
AB A series of titanium(II) derivs., TiE₂, was prepared by alkylative reduction of TiE₄ by two equivalent of n-butyllithium in THF at -78 to 25° (E = Cl, F, OBn, OPri, 0.5 NPh-CH₂-CH₂-NPh). The LiE byproduct could usually be removed by THF evaporation and dissoln. of the TiE₂ into toluene. All such TiE₂ derivs. were shown to effect the epimetalation and oligomerization of olefins, acetylenes and carbonyl derivs. in varying degrees. Particularly pertinent were the isolation and chemical reactions of titanium(II) isopropoxide, the postulated intermediate in the Kulinkovich synthesis of cyclopropanols from Et Grignard reagents and organic esters, as well as an intermediate in many allied reactions developed by the Sato group. The findings of the present study corroborate completely the foregoing hypothesis that titanium(II) isopropoxide is the key intermediate in such novel reactions in organic synthesis. Furthermore, Ti(OPri)₂ can be prepared readily in a relatively pure state and has been found to react with 1-alkenes, alkynes and ketones by epimetalation at 25° to form three-membered titanacycles, which can be utilized in organic synthesis.

Finally, the ease with which such TiE_2 derivs. epimetalate unsatd. organic substrates has been decreased by the steric demands of E and by the coordination of Lewis bases or donor solvent to the titanium(II) center. Lewis acids, on the other hand, greatly increase the rate of epimetalation by TiE_2 . A dramatic illustration of this effect is in the action of $TiCl_2\cdot Me_2AlCl$ on unsatd. hydrocarbons, wherein the polymerization of ethylene and of 1-alkene and the cyclotrimerization of alkynes are found to occur at room temperature

RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 11 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2001:250145 CAPLUS
DN 135:61377
TI The variable reaction behaviour of base-free [tris(trimethylsilyl)methyl]lithium with trihalides of earth metals and iron
AU Viefhaus, T.; Schwarz, W.; Hubler, K.; Locke, K.; Weidlein, J.
CS Inst. fur Anorganische Chemie, Univ. Stuttgart, Stuttgart, Germany
SO Zeitschrift fuer Anorganische und Allgemeine Chemie (2001), 627(4), 715-725
CODEN: ZAACAB; ISSN: 0044-2313
PB Wiley-VCH Verlag GmbH
DT Journal
LA German
OS CASREACT 135:61377
AB Base-free (Me_3Si) $_3$ ClLi (Tsi-Li) reacts with $MHal_3$ ($M = Al, Ga, In; Hal = Cl, Br, I$) primarily to give the resp. metalates [Tsi- $MHal_3$]Li. Simultaneously to this simple metathesis, a methylation also takes place, mainly with heavier halides of Ga and In with excess Tsi-Li, forming the mono and di-Me compds. Tsi- $M(Me)_2$ I ($M = Ga, In$), Tsi-GaMe₂, and (Tsi)₂InMe, resp., as well as the main byproduct 1,3-disilacyclobutane. Representatives of each type of compound were isolated by fractional crystallization or sublimation and were characterized by spectroscopy (1H, 13C and 29Si NMR, IR, Raman) and x-ray elucidations. Reduction takes place when $FeCl_3$ reacts with Tsi-Li (1:3 ratio) in toluene at 55-60°, yielding red-violet $Fe(Tsi)_2$, (Me_3Si) $_3$ CCH₂Ph, and low ants. of Tsi-Cl. $Fe(Tsi)_2$ is monomeric, crystallizes in the monoclinic space group C2/c and consists of a linear C-Fe-C skeleton with $d(Fe-C) = 204.5(4)$ pm.
RE.CNT 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 12 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2001:85092 CAPLUS
DN 134:295927
TI Coordination of Lewis Acid to η^2 -Enonepalladium(0) Leading to Continuous Structure Variation from η^2 -Olefin Type to η^3 -Allyl Type
AU Ogoshi, Sensuke; Yoshida, Tomohiro; Nishida, Takuma; Morita, Masaki; Kurosawa, Hideo
CS Department of Applied Chemistry Faculty of Engineering, Osaka University, Suita Osaka, 565-0871, Japan
SO Journal of the American Chemical Society (2001), 123(9), 1944-1950
CODEN: JACSAT; ISSN: 0002-7863
PB American Chemical Society
DT Journal
LA English
OS CASREACT 134:295927
AB The reaction of α,β -unsatd. carbonyl compds., a $Pd(0)$ complex, and Lewis acids gave a new class of complexes showing a wide variety of structures with η^2 -type and η^3 -type coordination of the carbonyl

compds. The reaction of Pd(PhCH:CHCOCH₃)₂ with BF₃·OEt₂ or B(C₆F₅)₃ quant. gave Pd complexes 1a,b having BX₃-coordinated η^2 -enonepalladium structure, as revealed by x-ray structure anal. of the B(C₆F₅)₃ adduct 1b. However, the reaction of Pd(PhCH:CHCHO)(PPh₃)₂ with BF₃·OEt₂ or B(C₆F₅)₃ gave distorted zwitterionic η^3 -allylpalladium complexes 3a,b, where the Pd-carbonyl C distance in 3a (2.413(4) Å) is much shorter than that (2.96(1) Å) in 1b. The values of the P-P coupling constant and ¹³C chemical shift for carbonyl C are useful criteria for predicting how the η^3 -coordination mode contributes to the structure of the enone-Pd-Lewis acid system. MO calcns. on model complexes suggest that orbital overlap in the HOMO between the Pd and carbonyl C is enlarged by coordination of the Lewis acid to the carbonyl group. Pd-catalyzed conjugate addition of R-M (R-M = AlMe₃, AlEt₃, ZnEt₂) and its plausible reaction path are also reported.

RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 13 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2000:742861 CAPLUS
DN 134:42178
TI Synthesis and purification of trimethylgallium for MOCVD: molecular structure of (KF)4·4(Me₃Ga)
AU Starowieyski, Kazimierz B.; Chwojnowski, Andrzej; Jankowski, Krzysztof; Lewinski, Janusz; Zachara, Janusz
CS Faculty of Chemistry, Warsaw University of Technology, Warsaw, 00-662, Pol.
SO Applied Organometallic Chemistry (2000), 14(10), 616-622
CODEN: AOCHEX; ISSN: 0268-2605
PB John Wiley & Sons Ltd.
DT Journal
LA English
OS CASREACT 134:42178
AB Trimethylgallium was obtained from a 3:1 M mixture of Me₂AlCl₁ (1) and GaCl₃ (2) only in the presence of NaCl. The mechanism of the reaction was traced. It is postulated that the gallium-aluminum dimers Cl_nMe₂-nAlCl₂ GaCl_mMe₂-m (m and n = 0, 1 or 2), formed in consecutive alkylation steps, do not participate in further alkyl-chlorine exchange. NaCl splits the dimers that form the precipitate of Na[MeAlCl₃] (3), thus liberating MeGaCl_{3-n} which, on further alkylation by Me₂AlCl₁, finally yields Me₃Ga. For an MOCVD application, it is purified through a complex with KF, which under vacuum decomp. at 180-300°C, to yield a product contaminated by less than 1 ppm of the total impurities. The x-ray study of the complex reveals a tetrameric, highly sym. heterocubane of formula (KF)4·4(Me₃Ga).

RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 14 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2000:663063 CAPLUS
DN 134:4969
TI Group 13 Cation Formation with a Potentially Tridentate Ligand
AU Munoz-Hernandez, Miguel-Angel; Keizer, Timothy S.; Parkin, Sean; Patrick, Brian; Atwood, David A.
CS Department of Chemistry, The University of Kentucky, Lexington, KY, 40506-0055, USA
SO Organometallics (2000), 19(21), 4416-4421
CODEN: ORGND7; ISSN: 0276-7333
PB American Chemical Society
DT Journal
LA English
OS CASREACT 134:4969
AB A potentially tridentate ligand, 3,5-tBu₂-2-HOC₆H₂CH:NC₆H₄NH₂-2

(Phensal(tBu)H3), was prepared by the condensation of 1 equiv of phenylenediamine with 3,5-di-*tert*-butylsalicylaldehyde. When 1 equiv of this new ligand was added to AlMe3, [{Phensal(tBu)HAlMe}2] (1) results. In contrast, this reaction with GaMe3 produces [Phensal(tBu)H2]GaMe2 (2). When 1 or 2 equiv of Phensal(tBu)H3 is combined with Et2AlCl1, [Phensal(tBu)H2]2AlCl (3) forms. However the same reaction with Me2GaCl leads to [Phensal(tBu)H2]Ga(Me)Cl (4). A cationic complex, [{Phensal(tBu)H2}2Al]+Cl- (5), is formed when 3 is dissolved in MeOH. The MeOH apparently mediates the formation of the cation but does not coordinate the cationic metal. When the solvent is removed, 5 reverts back to neutral 3. When 3 is combined with GaCl3 in toluene, another cationic complex, [{Phensal(tBu)H2}2Al]+GaCl4- (6), is formed. In a similar manner, [{Phensal(tBu)H2}2Al]+Me2AlCl2- (7) is formed by adding Me2AlCl to 3. The compds. were characterized by m.p., elemental analyses, IR, 1H and 27Al NMR, and in the case of 2, 5, and 6 single-crystal x-ray anal.

RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 15 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2000:249054 CAPLUS
DN 132:356046
TI Reactions of alkylaluminium chlorides with diols. Crystal structure of C15Al13[OC(CH3)2CH2C(CH3)2O]2
AU Ziemkowska, Wanda; Pasynkiewicz, Stanislaw; Anulewicz-Ostrowska, Romana;
Fraczak, Michal
CS Faculty of Chemistry, Warsaw University of Technology, Warsaw, 00-662,
Pol.
SO Main Group Metal Chemistry (2000), 23(3), 169-178
CODEN: MGMCE8; ISSN: 0792-1241
PB Freund Publishing House Ltd.
DT Journal
LA English
AB The reaction of 2,4-dimethyl-2,4-pentanediol with the mixture of Me2AlCl1 and MeAlCl2 at 2:0.75:2.25 molar ratio of reactants proceeded yielding the complex C15Al13[OCMe2CH2CMe2O]2 (1). The pure complex 1 was isolated and characterized by 1H, 27Al NMR spectroscopy, mol. weight measurements and elemental anal. The crystal structure of 1 was determined by x-ray diffraction anal. However, the reaction of 2,4-dimethyl-2,4-pentanediol with Me2AlCl1 at 2:3 molar ratio of reagents gave the crystalline inseparable mixture of complexes MenC15-nAl13[OCMe2CH2CMe2O]2 [n = 0-4] (2). The crystal structure of the product 2 was determined by x-ray diffraction study.
RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 16 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2000:213045 CAPLUS
DN 132:308386
TI The correlation of dative bond length and parameter n in adducts Me3N-AlMe3-nCln (n ≤ 3)
AU Gelbrich, T.; Sieler, J.; Dumichen, U.
CS Department of Chemistry, University of Southampton, Southampton, SO17 1BJ,
UK
SO Zeitschrift fuer Kristallographie (2000), 215(2), 127-130
CODEN: ZEKRDZ; ISSN: 0044-2968
PB R. Oldenbourg Verlag
DT Journal
LA English
AB Complexes Me3N-AlMe3-nCln (n = 0, 1, 2, 3) were synthesized in 84-89% yields by reaction of Me3N with the corresponding AlMe3-nCln in pentane or Et2O and structurally characterized by x-ray crystallog. and NMR spectroscopy. The shape of the mols. is trigonal-antiprismatic with the N

and Al atoms being tetrahedrally surrounded. The length of the dative bond N-Al is correlated with the parameter n due to inductive effects of the electroneg. Cl substituents, resulting in a difference in N-Al between all complexes of 0.1 Å (2.045, 2.010, 1.971, and 1.949 Å). This shortening with increasing n , however, is not linear.

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 17 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2000:140339 CAPLUS
DN 132:308382
TI Bimetallic and cationic aluminum with N3O2 chelate ligands
AU Liu, Shengming; Munoz-Hernandez, Miguel-Angel; Atwood, David A.
CS Department of Chemistry, The University of Kentucky, Lexington, KY, USA
SO Journal of Organometallic Chemistry (2000), 596(1-2), 109-114
CODEN: JORCAI; ISSN: 0022-328X
PB Elsevier Science S.A.
DT Journal
LA English
AB The ligands aminobis(N-ethylenesalicylideneimine) (SalenN3H3) and aminobis(N-propylenesalicylideneimine) (SalpenN3H3) were used to form the bimetallic complexes SalenN3H{AlMe2}2 (1), SalpenN3H{AlMe2}2 (2), SalenN3H{AlMeCl}2 (3) and SalpenN3H{AlMeCl}2 (4). When extracted in THF 3 and 4 redistribute to form the ionic compds. [SalenN3H{Al1(THF)}]+ [AlMe2Cl2]- (5) and [SalpenN3H{Al1(THF)}]+ [AlMe2Cl2]- (6). The compds. were characterized by Mp analyses, 1H-NMR and IR, and in the case of 2 and 6 by x-ray crystallog. Addnl., the potential of 5 and 6 to serve as propylene oxide polymerization catalysts was examined

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 18 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2000:20838 CAPLUS
DN 132:180614
TI Synthesis, properties, and molecular structures of alkylaluminium aminoalkoxide chlorides
AU Hecht, Elmar; Gelbrich, Thomas; Thiele, Karl-Heinz; Sieler, Joachim
CS Inst. Anorganische Chemie, Univ. Leipzig, Leipzig, Germany
SO Zeitschrift fuer Anorganische und Allgemeine Chemie (2000), 626(1), 180-186
CODEN: ZAACAB; ISSN: 0044-2313
PB Wiley-VCH Verlag GmbH
DT Journal
LA German
OS CASREACT 132:180614
AB Alkylaluminium aminoalkoxide chlorides R(Cl)AlOR* [R = Et, R* = (CH₂)₃NMe₂ (1); R = Me, R* = CHMeCH₂NMe₂; R = Me, R* = (S)-N-methyl-2-pyrrolidinylmethyl] were obtained from the reaction of R₂AlCl with the resp. amino alc. R*OH. The reaction between Me₂AlCl and (S)- α , α -diphenyl-2-pyrrolidinemethanol (dpm-H) yielded, by contrast, the ionic {[Me₁(dpm)2AlMe₂]⁺[MeAlCl₃]⁻} complex (4). The new compds. were characterized by 1H, 13C, and 27Al NMR. Crystal structures of 1 and 4.OEt₂ were determined by x-ray methods, and the absolute structure of 4 was confirmed by refinement of the Flack parameter. The dimeric mols. of 1 are composed of 2 chelating rings linked via an almost planar Al₂O₂ unit, and pentacoordination is observed about Al. In contrast, each of the 2 crystallog. independent cation mols. of 4 contains one 4- and one 5-coordinate metal center.

RE.CNT 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 19 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1999:574285 CAPLUS
DN 131:322667
TI Neutral and Cationic Group 13 Phosphinimine and Phosphinimide Complexes
AU Ong, Christopher M.; McKarns, Peggy; Stephan, Douglas W.
CS Department of Chemistry and Biochemistry School of Physical Sciences,
University of Windsor, Windsor, ON, N9B 3P4, Can.
SO Organometallics (1999), 18(20), 4197-4204
CODEN: ORGND7; ISSN: 0276-7333
PB American Chemical Society
DT Journal
LA English
OS CASREACT 131:322667
AB Reactions of the silylphosphimines $R_3PNSiMe_3$ ($R = i\text{-Pr, Ph, Cy}$) with $AlCl_3$, $AlMeCl_2$, $AlMe_2Cl$, and $AlMe_3$ afford the compds. $(i\text{-Pr}_3PNSiMe_3)AlCl_3$ (1), $(R_3PNSiMe_3)AlMeCl_2$ ($R = i\text{-Pr, 2; Ph, 3; Cy, 4}$), $(R_3PNSiMe_3)AlMe_2Cl$ ($R = i\text{-Pr, 5; Ph, 6; Cy, 7}$), and $(R_3PNSiMe_3)AlMe_3$ ($R = i\text{-Pr, 8; Ph, 9; Cy, 10}$). Reaction of R_3PNH ($R = t\text{-Bu, Cy, Ph}$) with $AlMe_2Cl$ and $AlMe_3$ afforded $(R_3PNH)AlMe_2Cl$ ($R = Cy, 11; t\text{-Bu, 12}$) and $(Ph_3PNH)AlMe_3$ (13), resp. The dimeric species $[Me_2Al(\mu\text{-NPr-Bu}_3)]_2$ (14) [$AlCl_2(\mu\text{-NPr-Bu}_3)]_2$ (15) were derived from reactions of $(t\text{-Bu}_3PNH)$ and $AlMe_3$ and $t\text{-Bu}_3PNLi$ and $MeAlCl_2$, resp. Reaction of the bisphosphinimine salt $LiCH(PPh_2(NSiMe_3))_2$ (16) with aluminum, gallium, and indium halides yielded $[CH(PPh_2(NSiMe_3))_2]MC_2$ ($M = Al, 17; Ga, 18; In, 19$) while the analogous species $[CH(PPh_2(NSiMe_3))_2]AlMe_2$ (20) was prepared via reaction of 16 with Me_2AlCl . The compds. $[CH(PPh_2(NSiMe_3))_2]MR_2$ ($M = Al, Bz, 21; M = Ga, R = Me, 22; Bz, 23; M = In, R = Me, 24; Bz, 25$) were readily prepared by treatment of 17-19 with the appropriate alkylating reagents. The borane $B(C_6F_5)_3$ reacts stoichiometrically with the adducts 8-10 to give the products $[(R_3PNSiMe_3)AlMe_2][MeB(C_6F_5)_3]$ ($R = i\text{-Pr, 26; Ph, 27; Cy, 28}$) while treatment of 27 with $PPMe_2$ affords clean conversion to the salt $[(Ph_3PNSiMe_3)2AlMe(PMe_3)][MeB(C_6F_5)_3]$ (29). Similarly, species $[Me_2Al(\mu\text{-NPr-Bu}_3)2AlMe][MeB(C_6F_5)_3]$ (30) and $[Me_2Al(\mu\text{-NPr-Bu}_3)2AlMe(PMe_3)][MeB(C_6F_5)_3]$ (31) were obtained from 14. Attempts to generate the related ionic derivs. from 20-25 yielded unstable mixts. of products. Under mild conditions these group 13 ionic species did not effect the polymerization of ethylene. Crystallog. data are reported for compds.
1, 3, 6, 8, 11, 13-15, 18, and 20.
RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 20 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1999:357005 CAPLUS
DN 131:116321
TI Reactivity of $AlMe_3$ with titanium(IV) Schiff base complexes: X-ray structure of $[Ti\{(\mu\text{-Br})(AlMe_2)\}(\mu\text{-Br})(AlMe_2X)](salen).C_7H_8$ ($X = Me$ or Br) and reactivity studies of mono-alkylated $[Ti(Me)X(L)]$ complexes
AU Coles, Simon J.; Hursthouse, Michael B.; Kelly, David G.; Toner, Andrew J.; Walker, Neil M.
CS Department of Chemistry, University of Wales College of Cardiff, Cardiff, CF1 3TB, UK
SO Journal of Organometallic Chemistry (1999), 580(2), 304-312
CODEN: JORCAI; ISSN: 0022-328X
PB Elsevier Science S.A.
DT Journal
LA English
OS CASREACT 131:116321
AB $[TiCl_2(salen)]$ (1) reacts with $AlMe_3$ (1:2) to give the heterometallic $Ti(III)$ and $Ti(IV)$ complexes $[Ti\{(\mu\text{-Cl})(AlMe_2)\}(\mu\text{-Cl})(AlMe_2X)](salen)$ ($X = Me$ or Cl) and $[TiMe\{(\mu\text{-Cl})(AlCl_2Me)\}(salen)]$ (3). Addition of Et_2O to 3 affords $[Ti(Me)Cl(salen)]$ (4). The analogous

reaction of $[\text{TiBr}_2(\text{salen})]$ gives the crystallog. characterized $[\text{Ti}\{(\mu\text{-Br})(\text{AlMe}_2)\}\{(\mu\text{-Br})(\text{AlMe}_2\text{X})\}(\text{salen})]$ ($\text{X} = \text{Me}$ or Br) and $[\text{Ti}(\text{Me})\text{Br}(\text{salen})]$ in a single step, while the comparable reaction of $[\text{TiCl}_2\{(\text{3-MeO})_2\text{salen}\}]$ with AlMe_3 yields $[\text{Ti}(\text{Me})\text{Cl}\{(\text{3-MeO})_2\text{salen}\}]$ with no evidence of $\text{Ti}(\text{III})$ species. Reactivity of both halide and Me groups of 4 was probed using Mg reduction, SbCl_5 and AgBF_4 halide abstraction and SO_2 insertion reactions. Hydrolysis of $[\text{Ti}(\text{Me})\text{X}(\text{L})]$ complexes affords $\mu\text{-oxo}$ species $[\text{TiX}(\text{L})_2(\mu\text{-O})]$ ($\text{X} = \text{Cl}$, $\text{L} = \text{salen}$; $\text{X} = \text{Br}$, $\text{L} = \text{salen}$; $\text{X} = \text{Cl}$, $\text{L} = (\text{3-MeO})_2\text{salen}$).

RE.CNT 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 21 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1999:109179 CAPLUS
DN 130:290589
TI Stereoselective control of *cis*- and *trans*- TiCl_2 groups in six-coordinate complexes $[(\text{L})\text{TiCl}_2]$ ($\text{L}2^- = \text{N}2\text{O}_2$ -donor Schiff base) and reactions with trimethylaluminum to form cationic aluminum species
AU Corden, Jonathan P.; Errington, William; Moore, Peter; Wallbridge, Malcolm G. H.
CS Department of Chemistry, University of Warwick, Coventry, CV4 7AL, UK
SO Chemical Communications (Cambridge) (1999), (4), 323-324
CODEN: CHCOFS; ISSN: 1359-7345
PB Royal Society of Chemistry
DT Journal
LA English
AB The 1st example of a *cis*-configuration of the TiCl_2 group in a six-coordinate titanium complex $[(\text{L})\text{TiCl}_2]$, involving a tetradeятate $\text{N}2\text{O}_2$ -donor Schiff base ligand ($\text{L}2^-$), is reported. These complexes act as catalysts for the polymerization of ethene in the presence of MAO . The $\beta\text{-cis}$ configuration of the complex $[(\text{L})\text{TiCl}_2]$ (3, $\text{H}2\text{L}$ is the Schiff base from the 1:2 condensation of *trans*-cyclohexane-1,2-diamine with 2-propionylphenol) was determined by x-ray crystallog. (3· CHCl_3 : monoclinic, space group $\text{P}2_1/c$, $\text{R}1 = 0.053$). The reaction of the complex $\text{trans-}[(\text{L})\text{TiCl}_2]$ ($\text{H}2\text{L}$ is the Schiff base from the 1:2 condensation of ethane-1,2-diamine with 2-propionylphenol) with trimethylaluminum generated first the complex $[(\text{L})\text{TiCl}_2] \cdot 2\text{AlMe}_3$, and then $[(\text{L})(\text{AlMe})_2(\text{AlMe}_2)] + [\text{AlCl}_3\text{Me}]$, which crystallized in the orthorhombic space group $\text{Pna}2_1$, $\text{R}1 = 0.074$.
RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 22 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1998:605762 CAPLUS
DN 129:316365
TI Bis(boryl)metallocenes. 2. Syntheses of 1,1'-Bis(boryl)cobaltocenium Complexes
AU Herberich, Gerhard E.; Englert, Ulli; Fischer, Andreas; Wiebelhaus, Dag
CS Institut fuer Anorganische Chemie, Technische Hochschule Aachen, Aachen, D-52056, Germany
SO Organometallics (1998), 17(22), 4769-4775
CODEN: ORGND7; ISSN: 0276-7333
PB American Chemical Society
DT Journal
LA English
OS CASREACT 129:316365
AB Bis(boryl)cobaltocenes $\text{Co}(\text{C5H}_4\text{BR}_2)_2$ (1) can be made from $\text{CoBr}_2(\text{DME})$ and alkali metal borylcyclopentadienides $\text{M}(\text{C5H}_4\text{BR}_2)$ ($\text{M} = \text{Li}$, Na) (2). The two dialkylamino compds. 1c ($\text{R} = \text{NM}_2$) and 1d ($\text{R} = \text{NET}_2$) can be obtained in this way. Oxidation with C_2Cl_6 provides the ionic cobaltocenium chlorides (1c) Cl and (1d) Cl . Further cobaltocenium compds. can be synthesized by modification of the substituents at B. Treatment of (1d) Cl with excess

BC13 affords the highly reactive chloride $\text{Co}(\text{C5H4BC12})(\text{C5H4BC13})$ (5). Pinacolysis of 5 then affords the monosubstitution product $\text{Co}[\text{C5H4B}(\text{OCMe}2)2](\text{C5H4BC13})$ (9) and the disubstitution product $[\text{Co}[\text{C5H4B}(\text{OCMe}2)2]2]\text{Cl}$ [(1h)Cl], resp., depending on stoichiometry and reaction conditions. Reaction of 5 with tetramethyltin replaces two Cl atoms with Me groups to give $\text{Co}(\text{C5H4BMe}2)(\text{C5H4BC13})$ (10), while the more reactive trimethylaluminum replaces four Cl substituents to give $[\text{Co}(\text{C5H4BMe}2)2]\text{AlC14}$ [(1b)AlC14] and, after metathesis with NBu4PF6 in CH2Cl2 , the more convenient hexafluorophosphate (1b)PF6. The corresponding cobaltocene 1b is then accessible via conventional amalgam reduction of (1b)AlC14. Reaction of 5 with com. AsF3 affords the robust inverse chelate $\text{Co}(\text{C5H4BF}2)2(\mu\text{-OH})$ (11). Three structural types are encountered for the cobaltocenium derivs.: (i) ionic compds. (type A) such as (1c,d,h)Cl, (1b)AlC14, and (1b)PF6; (ii) zwitterionic or semiquaternized compds. (type B) with one trigonal and one tetrahedral B center such as 5, 9, and 10; of these, 5 is fluxional in solution with two effectively equivalent ligands while 9 and 10 display static structures; and (iii) the inverse chelate structure of 11 (type C) which is found in the crystal and in solution. The crystal and mol. structures of 11 were determined by x-ray crystallog.

RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 23 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1998:172335 CAPLUS
DN 128:252058
TI Some crown ether chemistry of Ti, Zr and Hf derived from liquid clathrate media
AU Alvanipour, Abbas; Atwood, Jerry L.; Bott, Simon G.; Junk, Peter C.; Kynast, Ulrich H.; Prinz, Horst
CS Department of Chemistry, University of Missouri-Columbia, Columbia, MO, 65211, USA
SO Journal of the Chemical Society, Dalton Transactions: Inorganic Chemistry (1998), (7), 1223-1228
CODEN: JCDTBI; ISSN: 0300-9246
PB Royal Society of Chemistry
DT Journal
LA English
AB The reaction of $[\text{Ti}(\eta\text{-C5H5})2\text{Cl}2]$ with HCl(g) in the presence of 18-crown-6 formed the oxonium ion-containing complex $[\text{H3O}^+\cdot\cdot\cdot18\text{-crown-6}][\text{TiCl5}(\text{H2O})^-]$ (1). Its crystal structure shows the oxonium ion resides within the crown ether and has a pyramidal structure. Treatment of $[\text{Ti}(\eta\text{-C5H5})\text{Cl}3]$ with $\text{AlMe}3$ in the presence of 18-crown-6 gave the titanium(III) complex $[\text{Ti}(\eta\text{-C5H5})\text{Cl}+\cdot\cdot\cdot18\text{-crown-6}][\text{AlCl2Me}2]$ (2). The structure of 2 reveals a cation with a five-coordinate Ti where the centroid of the C5H5 ring occupies the apex of a square pyramid. The crown ether 18-crown-6 underwent C-O bond scission by treatment with ZrCl4 in the presence of THF to form the ring-opened zirconium(IV) coordination complex $[\text{ZrCl2}\cdot(\text{OCH2CH2})5\text{OCH2CH2Cl}+\cdot\cdot\cdot[\text{ZrCl5}(\text{THF})^-]$ (3). The structure of 3 shows the formation of a zirconium alkoxide species formed by the ring-opening reaction. The seven-coordinate zirconium center has pentagonal-bipyramidal geometry with two chloride atoms in the axial positions. In an analogous reaction, but in the presence of NaCl , HfCl4 formed the ionic complex $[\text{Na}^+\cdot\cdot\cdot18\text{-crown-6}][\text{HfCl5}(\text{THF})^-]$ (4), which has a structure similar to that of (1). 1-4 Were characterized by x-ray crystallog. (1: monoclinic, space group $P21/c$, $R = 0.049$; 2: monoclinic, space group $P21/c$, $R = 0.070$; 3: triclinic, space group $P\bar{h}ivin.1$, $R = 0.068$; 4: monoclinic, space group $P21/c$, $R = 0.049$).

RE.CNT 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 24 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1997:259744 CAPLUS
DN 126:277519
TI Base Effects on the Formation of Four- and Five-Coordinate Cationic Aluminum Complexes
AU Jegier, Jolin A.; Atwood, David A.
CS Department of Chemistry Center for Main Group Chemistry, North Dakota State University, Fargo, ND, 58105, USA
SO Inorganic Chemistry (1997), 36(10), 2034-2039
CODEN: INOCAJ; ISSN: 0020-1669
PB American Chemical Society
DT Journal
LA English
AB This work was conducted as part of the authors' continuing effort to determine the factors that affect cation formation for organometallic Al complexes. The interactions of R2AlX (R = Me, iBu, tBu; X = Cl, Br, Iodo) with the monodentate bases THF, pyridine, NET₃, HNipr₂, H₂NiBu, H₂NtBu, and O:PPh₃ were examined to determine the role of the base in cation formation. These reactions resulted in the 9 neutral adducts R2AlX·base as well as the 3 cationic complexes [R2Al(base)2]X. The reactions of Me2AlX (X = Cl, Br) with PMDETA (N,N',N'',N''-pentamethyl diethylenetriamine) and the catalytic activity of the resulting 2 cationic complexes are also discussed. All of the compd. were characterized by m.p., IR, 1H-NMR, and elemental analyses, and in one an x-ray crystallog. study was carried out. X-ray data for [(PMDETA)AlMe2][Me2AlCl₂] (13): triclinic, space group P-hivin-1, a 6.9542(6), b 12.2058(10), c 13.2417(11) Å, α 106.236(2), β 98.885(2), γ 93.807(2) $^\circ$, and Z = 2 for 181 parameters refined on 4358 reflections having F > 6.0 σ (F), R = 0.0697, and R_w = 0.0697. Complex 13 showed some activity as catalyst in living polymerization of propylene oxide, affording the corresponding oligoether.

L4 ANSWER 25 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1996:592441 CAPLUS
DN 125:301142
TI Formation of titanium-aluminum Schiff base complexes: x-ray structure of [Ti(μ -Cl)(AlMe₂) $(\mu$ -Cl)(AlMe₂X)(salen)] (X = Me or Cl)
AU Kelly, David G.; Toner, Andrew J.; Walker, Neil M.; Coles, Simon J.; Hursthouse, Michael B.
CS Dep. Chem., Manchester Metropolitan Univ., Manchester, M1 5GD, UK
SO Polyhedron (1996), 15(23), 4307-4310
CODEN: PLYHDE; ISSN: 0277-5387
PB Elsevier
DT Journal
LA English
AB Reaction of [TiCl₂(salen)] [salen = N,N'-ethylenebis(salicylideneiminate)] with AlMe₃ in toluene/hexane afforded the hetero-bimetallic [Ti{(μ -Cl)(AlMe₂) $\}\{$ (μ -Cl)(AlMe₂X)(salen)}] (X = Me or Cl), 1 and [TiMe{(μ -Cl)(AlCl₂Me)}(salen)], 2; the crystal structure of the titanium(III) complex (1) has been determined. In THF 2 forms the stable monoalkylated titanium(IV) complex [Ti(Me)Cl(salen)] (3).

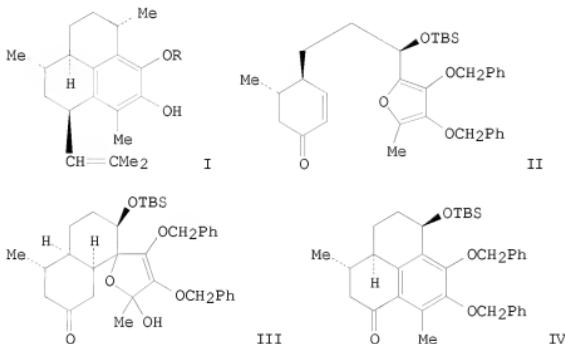
L4 ANSWER 26 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1995:308917 CAPLUS
DN 122:132352
TI Why Do Catalytic Quantities of Lewis Acid Generally Yield More Product than 1.1 Equivalent in the Intramolecular Diels-Alder Reaction with a Furan Diene? Competitive Complexation NMR Studies Provide an Answer
AU Hunt, Ian R.; Rogers, Christine; Woo, Simon; Rauk, Arvi; Keay, Brian A.
CS Department of Chemistry, University of Calgary, Calgary, AB, T2N 1N4, Can.
SO Journal of the American Chemical Society (1995), 117(3), 1049-56
CODEN: JACSAT; ISSN: 0002-7863

PB American Chemical Society
DT Journal
LA English
AB The results presented here provide exptl. support for a hypothesis made by us to rationalize literature observations on intramolecular Diels-Alder reactions (IMDA) and our own observations on IMDA with a furan diene (IMDAF) regarding the quantity (catalytic or stoichiometric) of Lewis acid required to facilitate reaction. Evidence suggests that the reactions can be divided into two classes: those that proceed with catalytic quantities of Lewis acid (herein defined as type A) and those that require a stoichiometric quantity of Lewis acid (type B). We believe that the relative basicity of the controlling functional groups in addend and adduct can be critical in determining the quantity of Lewis acid required. The relative Lewis basicity has been studied using competitive complexation studies using low-temperature NMR expts. to study the coordination of methylaluminum dichloride (MAC) and $\text{BF}_3\text{-Et}_2\text{O}$ with model oxygen Lewis bases and IMDAF addends and adducts.

L4 ANSWER 27 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1994:680695 CAPLUS
DN 121:280695
TI Cationic, Neutral, and Anionic Organoaluminum Species in $[\text{AlMe}_2(18\text{-crown-6})\text{AlMe}_2\text{X}][\text{AlMe}_3]$ (X = Cl, I)
AU Atwood, Jerry L.; Bott, Simon G.; Harvey, Stephen; Junk, Peter C.
CS Department of Chemistry, University of Missouri-Columbia, Columbia, MO, 65211, USA
SO Organometallics (1994), 13(11), 4151-2
CODEN: ORGND7; ISSN: 0276-7333
DT Journal
LA English
AB 18-Crown-6 reacts with AlX_3 (X = Cl, I) in an excess of AlMe_3 in toluene to form the liquid clathrate species $[\text{AlMe}_2(18\text{-crown-6})\text{AlMe}_2\text{X}][\text{AlMe}_3]$. The AlMe_2^+ ion is coordinated to the interior of the macrocycle, while the neutral species is coordinated to the exterior, via an inverted crown O atom.

L4 ANSWER 28 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1994:298773 CAPLUS
DN 120:298773
TI Synthesis and properties of bis(dichloromethylaluminum)dichlorodiethyllead complex
AU Jaworski, Krzysztof
CS Inst. Chem., Warsaw Tech. Univ., Plock, 09-400, Pol.
SO Bulletin of the Polish Academy of Sciences, Chemistry (1992), 40(4), 287-91
CODEN: BPACEQ; ISSN: 0239-7285
DT Journal
LA English
AB $[\text{Pb}(\text{C}_2\text{H}_5)_2\text{Cl}_2\cdot(\text{AlCH}_3\text{Cl}_1)_2]$ containing different alkyl groups attached to the lead and aluminum atoms was prepared by heating the components in benzene. The complex appeared to be an active catalyst in the redistribution reaction of alkyl groups between $\text{Pb}(\text{CH}_3)_4$ and $\text{Pb}(\text{C}_2\text{H}_5)_4$.

L4 ANSWER 29 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1993:428385 CAPLUS
DN 119:28385
TI Efficient synthesis of a hexasubstituted aromatic ring via an intramolecular Michael-aidol process: preparation of a late tricyclic intermediate for the synthesis of pseudopterosin A
AU Jung, Michael E.; Siedem, Christopher S.
CS Dep. Chem. Biochem., Univ. California, Los Angeles, CA, 90024, USA
SO Journal of the American Chemical Society (1993), 115(9), 3822-3



AB An efficient synthesis of a trisubstituted phenalene derivative containing the tricyclic ring skeleton of pseudopterosin A (I; R = β -D-xylopyranosyl) is described. The key step involves a novel intramol. Michael addition of an electron-rich furan in II (TBS = SiMe₂CMe₃) to a cyclohexenone followed by an aldol reaction of III to give IV in good yield.

L4 ANSWER 30 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1992:194493 CAPLUS

DN 116:194493

TI Unprecedented coordination of a silicon-chlorine bond to a transition metal: synthesis and structure of [*rac*-C₂H₄(indenyl)₂Zr(ClSiMe₃)₂] formed by reversible silicon-carbon bond activation

AU Horton, Andrew D.; Orpen, A. Guy
CS Koninklijke/Shell-Lab., Amsterdam, 1003 AA, Neth.

SO *Organometallics* (1992), 11(3), 1193-201
CODEN: ORGNDZ; ISSN: 0276-7333

BT Journal

Journal
of English

EN English AB Reaction

Reaction of $\text{Cp}^2\text{Zr}(\text{CH}(\text{SiMe}3)_2)\text{Cl}$ with a 2-fold excess of AlMe3 affords the novel Si-C bond activation products [cyclic] $[\text{Cp}^2\text{Zr}(\text{CH}(\text{SiMe}2\text{Cl})\text{(SiMe}3))]\text{[Al}2\text{ClMe7-n]}$ [Cp^2 = rac- $\text{C}_2\text{H}_4(\text{indenyl})_2$ (1), (C_5H_5) $_2$]; the Lewis acid adducts $\text{Cp}^2\text{Zr}^+(\text{CH}(\text{SiMe}3)_2)\text{Cl}\text{-AlCl}13$ are obtained with 1 equivalent of AlCl $_3$. In contrast, $\text{Cp}^2\text{Zr}(\text{CH}_2\text{SiMe}3)\text{Cl}$ (Cp^2 = rac- $\text{C}_2\text{H}_4(\text{indenyl})_2$, (C_5Me_5) $_2$) undergoes rapid alkyl-chloride exchange with AlCl $_3$, giving $\text{Cp}^2\text{ZrCl}_2\text{-Me}3\text{SiCH}_2\text{AlCl}12$. The structure of 1 was determined by x-ray crystallog. The unusual chelating alkyl ligand shows the first example of Si-Cl bond coordination to a transition metal. The Si-C bond activation reaction leading to 1 is reversible, as shown by formation of rac- $\text{C}_2\text{H}_4(\text{indenyl})_2\text{Zr}(\text{CH}(\text{SiMe}3)_2)\text{Cl}$ on reaction of 1 with a 2-fold excess of AlMe3. Sterically and electronically saturated 1 is inert toward unsatd. substrates. Treatment of 1 with Lewis bases affords rac- $\text{C}_2\text{H}_4(\text{indenyl})_2\text{Zr}^+(\text{nl-CH}(\text{SiMe}2\text{Cl})\text{(SiMe}3))\text{Cl}$.

L4 ANSWER 31 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1990:572115 CAPLUS
DN 113:172115
TI Reaction of trimethylaluminum with selenium tetrachloride: synthesis of $[(CH_3)_3Se][ClAl(CH_3)_2(Cl)Al(CH_3)_3]$, the first selenium-based liquid clathrate
AU Sangokoya, Samuel A.; Robinson, Gregory H.
CS Dep. Chem., Clemson Univ., Clemson, SC, 29634-1905, USA
SO Journal of Inclusion Phenomena and Molecular Recognition in Chemistry (1990), 9(1), 85-8
CODEN: JIMCEN; ISSN: 0923-0750
DT Journal
LA English
AB $SeCl_4$ reacts with an excess of Me_3Al in the presence of aromatic solvents to afford a nonstoichiometric organoaluminum-selenonium based inclusion compound $[Me_3Se][ClAlMe_2(Cl)AlMe_3]$ (aromatic solvent) n . The cation of the parent compound of the inclusion complex results from the alkylation of $SeCl_4$ producing the Me_3Se^{+} selenonium ion while the anion consists of a Me_2AlCl unit and a Me_3Al unit bridged by a chlorine atom. This liquid inclusion complex, a liquid clathrate, can accommodate 8.5 benzene mols. or 8.3 guest toluene mols. per anionic moiety.
L4 ANSWER 32 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1990:406414 CAPLUS
DN 113:6414
TI Synthesis and molecular structure of $\{[Se(CH_3)_3][(CH_3)AlCl_3]\}n$: a novel two-dimensional layered organoaluminum-selenium polymer
AU Sangokoya, Samuel A.; Pennington, William T.; Robinson, Gregory H.
CS Dep. Chem., Clemson Univ., Clemson, SC, 29634-1905, USA
SO Journal of Crystallographic and Spectroscopic Research (1990), 20(1), 53-7
CODEN: JCREDB; ISSN: 0277-8068
DT Journal
LA English
AB The crystalline product $\{[SeMe_3](MeAlCl_3)\}n$ (I) was prepared from reaction of $SeCl_4$ with Me_3Al in heptane and its x-ray crystal structure was determined. The asym. unit contains one selenonium ion, $SeMe_3^+$, and one organoaluminum anionic species $MeAlCl_3^-$. Secondary interactions ($Se\ldots Cl$) link the ions along two dimensions to form infinite layers to give I as a layered organoaluminum-selenium polymer. The mean $Se-C$ bond distance is 1.921(5) Å while the mean $C-Se-C$ bond angle is 9.14(4)°. The independent $Al-C$ bond distance is 1.927 Å while the mean $Al-Cl$ bond distance is 1.166(7) Å.
L4 ANSWER 33 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1990:118894 CAPLUS
DN 112:118894
TI Alkylation of tellurium tetrachloride by trimethylaluminum: synthesis and molecular structure of $[Te(CH_3)_3][Al(CH_3)_2Cl_2]$: a novel organotelluronium-aluminum oligomer
AU Sangokoya, Samuel A.; Pennington, William T.; Robinson, Gregory H.
CS Dep. Chem., Clemson Univ., Clemson, SC, 29634-1905, USA
SO Journal of Crystallographic and Spectroscopic Research (1989), 19(3), 433-8
CODEN: JCREDB; ISSN: 0277-8068
DT Journal
LA English
AB Reaction of $TeCl_4$ with $AlMe_3$ in toluene affords $[TeMe_3][AlMe_2Cl_2]$ for which an x-ray crystal structure was determined. The compound does not exist as discrete cations and anions but may be described as an organotelluronium-aluminum oligomer. The mean $Te-C$ bond distance is

2.130(11) Å while the mean Al-Cl bond distance is 2.221(4) Å.

L4 ANSWER 34 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1989:646694 CAPLUS
DN 111:246694
TI Reaction of organoaluminum species with bidentate phosphine ligands. Synthesis and molecular structure of $[AlCl_3]_2[(Ph_2P)_2CH_2][AlCl_2(CH_3)]$ and $[AlCl_3]_2[(Ph_2P(O))_2CH_2]$
AU Sangokoya, Samuel A.; Lee, Baosheng; Self, Mark F.; Pennington, William T.; Robinson, Gregory H.
CS Dep. Chem., Clemson Univ., Clemson, SC, 29634-1905, USA
SO Polyhedron (1989), 8(12), 1497-1502
CODEN: PLYHDE; ISSN: 0277-5387
DT Journal
LA English
AB Reaction of $Me_3Al_2Cl_3$ with $(Ph_2P)_2CH_2$ and $(Ph_2P(O))_2CH_2$ affords $[AlCl_3][\mu-(Ph_2P)_2CH_2][AlCl_2(Me)]$ (I) and $[AlCl_3]_2[(Ph_2P(O))_2CH_2]$ (II), resp. I crystallizes in triclinic space group P.hivin.l, a 10.009(3), b 10.748(4), c 14.806(5) Å, α 90.38(3), β 103.36(2), γ 96.89(3)°, Z = 2, R = 0.047, R_w = 0.066. II crystallizes in monoclinic space group C2, a 12.773(2), b 13.028(3), c 9.461(2) Å, β 104.43(2)°, Z = 2, R = 0.043, R_w = 0.050. Both products result from reaction of the redistribution products of $Me_3Al_2Cl_3$, $AlCl_3$ and $AlCl_2Me$.

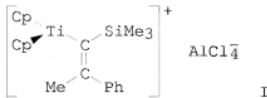
L4 ANSWER 35 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1989:75597 CAPLUS
DN 110:75597
TI Alternative methods of modifying the calixarene conformation. The synthesis and molecular structures of tert-butylcalix[4]arene methyl ether complexes with aluminum alkyl species
AU Bott, Simon G.; Coleman, Anthony W.; Atwood, Jerry L.
CS Dep. Chem., Univ. Alabama, Tuscaloosa, AL, 35487, USA
SO Journal of Inclusion Phenomena (1987), 5(6), 747-58
CODEN: JOIPDF; ISSN: 0167-7861
DT Journal
LA English
AB The mol. structures of the title complexes were confirmed by x-ray crystallog. and NMR analyses. The configurations of calix[4]arenes may be modified by the formation of donor-acceptor complexes which make use of the oxygen atoms of the macrocycle. Thus, [tert-butylcalix[4]arene Me ether] $[AlMe_3]_2$ exhibits the previously unseen 1,2-alternate geometry, while [tert-butylcalix[4]arene Me ether] $[MeAlCl_2]_2$ and [tert-butylcalix[4]arene Me ether] $[EtAlCl_2]_2$ show the 1,3-alternate configuration. The Al-O lengths in all three complexes are normal for donor-acceptor interactions.

L4 ANSWER 36 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1988:611116 CAPLUS
DN 109:211116
TI Sterically crowded aryloxide compounds of aluminum
AU Healy, Mathew D.; Wierda, Derk A.; Barron, Andrew R.
CS Dep. Chem., Harvard Univ., Cambridge, MA, 02138, USA
SO Organometallics (1988), 7(12), 2543-8
CODEN: ORGND7; ISSN: 0276-7333
DT Journal
LA English
OS CASREACT 109:211116
AB Reaction of $AlMe_3$ with 2 equiv of the sterically hindered phenol 2,6-di-tert-butyl-4-methylphenol (BHT-H) gives the disubstituted compound $AlMe(BHT)_2$ (I), whereas excess of $AlMe_3$ leads to the compound $AlMe_2(BHT)$ (II). Addition of PM_3 to I and II yields $AlMe(BHT)_2(PMe_3)$ and

AlMe₂(BHT)(PMe₃) (III), resp. The addition of 1 equiv of Me₃NHCl to I and III gave AlCl(BHT)2(NMe₃) and AlClMe(BHT)(NMe₃) (IV); reaction of a further equivalent of Me₃NHCl to IV affords the ionic complex [Me₃NH][AlMeCl₂(BHT)] (V). The mol. structures of III and V were determined by x-ray crystallog. The Al-O distances are shorter and Al-O-C angles larger than usually found for aluminum alkoxides. The possibility of a π -type interaction between Al and O is discussed.

L4 ANSWER 37 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1988:197093 CAPLUS
DN 108:197093
TI Aluminum dichloride and dibromide. Preparation, spectroscopic (including matrix isolation) study, reactions, and role (together with alkyl(aryl)aluminum monohalides) in the preparation of organoaluminum compounds
AU Olah, George A.; Farooq, Omar; Farnia, S. Morteza F.; Bruce, Mark R.; Clouet, Francoise L.; Morton, Peter R.; Prakash, G. K. Surya; Stevens, Raymond C.; Bau, Robert; et al.
CS Donald P. and Katherine B. Loker Hydrocarbon Res. Inst., Univ. Southern California, Los Angeles, CA, 90089-1661, USA
SO Journal of the American Chemical Society (1988), 110(10), 3231-8
CODEN: JACSAT; ISSN: 0002-7863
DT Journal
LA English
OS CASREACT 108:197093
AB Anhydrous AlX (X = Cl, Br) when heated in a 2:1 molar ratio with Al powder in a suspension of dry heptane or methylcyclohexane is partially reduced to AlX₂. Ultrasound treatment (sonication) significantly promotes the reaction. AlCl₂ in higher purity was obtained by the reaction of gaseous AlCl₃ with Al-metal in a high-vacuum reactor, allowing subsequent study by IR spectroscopy. AlCl₂ in higher purity was also obtained by the high-temperature reaction of gaseous AlCP₃ with Al-metal in a high-vacuum reactor. Al₂(iso-Bu)₄-xCl_x was also prepared through the reaction of Al₂(iso-Bu)₄ and HCl at low temperature. Both materials were studied by IR spectroscopy and compared to AlCl₂ prepared and isolated through the codeposition of Al atoms and Cl₂ in a solid Ar matrix. The matrix study characterized AlCl₂ together with AlCl₁ and AlCl₃, which were also formed in the system. Paramagnetic AlX₂ are associated in the condensed state (except under matrix isolation conditions where they are monomeric). An ESR study of the pyridinium complex of AlCl₂ was carried out and showed its paramagnetic nature. In the present study, for simplicity, the reactions of AlX₂ are considered as those of the dimers but could involve higher associated oligomers. MNDO calcns. on the heats of formation of 7 possible isomeric structures of Al₂Cl₄ indicate the preference for both halogen bridging and significant Al-Al bonding in the dimer. Reaction of AlCl₃ + Al with CH₂H₄, the Hall and Nash reaction, was restudied by ¹³C and ²⁷Al NMR spectroscopy. The reaction gives, besides Al₂EtCl₃, 1,2- and 1,1-C₂H₄(AlCl₂)₂. Cyclohexene in a similar reaction gives, although less readily, 1,2-bis(dichloroaluminio)cyclohexane. The reactions are indicative of addition of (AlCl₂)₂ to the olefins. Alkyl- and arylaluminum monohalides are intermediately formed in the reaction of alkyl halides or halobenzenes with active Al powder. AlX₂ are also considered to be dimeric in nature and immediately react with excess of the alkyl (aryl) halides to form the corresponding sesquihalides. AlX₂ formed in the AlX₃-Al metal systems react with alkyl or aryl halides to give alkyl(aryl)aluminum dihalides. Sonication was found to significantly promote these reactions.

L4 ANSWER 38 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1988:15200 CAPLUS
DN 108:15200
TI Preparation and structure of the dichloro[15-crown-5]ytterbium(1+) cation,



AB PhC.tpbond.CSiMe3 reacted with Cp₂TiCl₂ (*Cp* = η^5 -cyclopentadienyl) and MeAlCl₂ to give the alkenyl Ti complex I. The x-ray crystal structure of I showed the Ti, Si, vinyl carbons, and the Me and Cl-Ph carbons were essentially planar. ¹H, ¹³C, and ²⁷Al NMR spectroscopy showed I was the first and only insertion product formed in this reaction. Cp₂TiCl₂ and MeAlCl₂ gave Cp₂TiCl₂(μ -Cl)AlCl₂Me (II), as confirmed by x-ray crystallog. Cp₂TiMe₂ AlCl₄⁻, formed by dissociation of II, was proposed as the active catalyst for Ziegler polymn systems.

L4 ANSWER 41 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1985:596144 CAPLUS
DN 103:196144
OREF 103:31613a,31616a
TI Complexes of alkali earth metal halides with alkyl aluminum dihalides
AU Giannini, U.; Albizzati, E.; Zucchini, U.
CS Montedison Group, Ist. G. Donegani S.p.A., Novara, 28100, Italy
SO Inorganica Chimica Acta (1985), 98(3), 191-4
CODEN: ICHAA3; ISSN: 0020-1693
DT Journal
LA English
AB The reaction of MX₂ (M = Mg, Ca, Si, Ba; X = Cl, Br, I) with RAlX₂ (R = Me, Et, Bu; X = Cl, Br, I) gave 72.4-97.0% MX₂.nRAlX₂ (n = 1-4).

L4 ANSWER 42 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1985:415936 CAPLUS
DN 103:15936
OREF 103:2527a,2530a
TI Mononuclear and binuclear cationic complexes of vanadium(II)
AU Cotton, F. Albert; Duraj, Stan A.; Manzer, Leo E.; Roth, Wieslaw J.
CS Dep. Chem., Texas A and M Univ., College Station, TX, 77843, USA
SO Journal of the American Chemical Society (1985), 107(13), 3850-5
CODEN: JACSAT; ISSN: 0002-7863
DT Journal
LA English
AB A method for the high-yield preparation (<99%) of the new [(THF)₃V(μ -Cl)₃THF₃]AlCl₂R₂ (I; R = Et or Me) is described. I (R = Et) reacts instantaneously with MeOH to give a blue solution from which, depending upon the workup, [V(MeOH)₆]Cl₂ (II) or VC₂(MeOH)₄ can be obtained. With PMe₃, I (R = Et) readily affords [(PMe₃)₃V(μ -Cl)₃THF₃]AlCl₂Et₂ (III). Crystals of I (R = Et) diffracted poorly, and the structure could not be satisfactorily refined because of severe disorder in the THF ligands as well as in [Et₂AlCl₂]⁻. The structure was solved, however, and refined sufficiently to define V₂(THF)₆(μ -Cl)₃⁺ cation and Et₂AlCl₂⁻ anion unambiguously but not accurately. Further characterization came from elemental anal. on all 6 elements of I (R = Et) and its UV spectrum. II crystallizes in space group P21/n with a 6.993(3), b 10.809(4), c 10.2984(4) Å, β 97.00(3) $^\circ$, Z = 2.
II represents the 1st example of a homoleptic V(II) alcoholate to be fully characterized by x-ray crystallog. For III the orthorhombic unit cell

(space group Pnma) has a 12.705(2), b 12.522(4), c 28.554(9) Å, and Z = 4. The V-V' distance (in III) is 3.103(4) Å.

L4 ANSWER 43 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1984:409562 CAPLUS
DN 101:9562
OREF 101:1573a,1576a
TI Purifying aluminum chloride
IN Tkachenko, A. F.; Groshev, G. L.; Bodrikov, I. V.
PA USSR
SO U.S.S.R.
From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1984, (13), 63-4.
CODEN: URXXAF
DT Patent
LA Russian
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI SU 1084248	A1	19840407	SU 1982-3409943	19820324 <--
PRAI SU 1982-3409943		19820324		

AB The degree of purification of AlCl₃ is increased by using RAICl₂ (R = Me or Et) as a solvent for recrystn.

L4 ANSWER 44 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1984:6762 CAPLUS
DN 100:6762
OREF 100:1167a,1170a
TI Studies on tungsten hexacarbonyl and (arene)tungsten tricarbonyl derived catalysts in metathesis of linear olefins. IR and proton NMR investigation on systems: (arene)tungsten tricarbonyl + RAICl₂ + oxygen (O₂)
AU Korda, Anna; Giezyński, Roman
CS Fac. Chem., Politech. Univ., Warsaw, 00662, Pol.
SO Polish Journal of Chemistry (1982), 56(4-5-6), 849-54
CODEN: PJCHDQ; ISSN: 0137-5083
DT Journal
LA English
GI For diagram(s), see printed CA Issue.
AB LW(CO)₃ (L = benzene, mesitylene) form adducts I and II (R = H, Me in each case) with EtAlCl₂. Similar results were obtained with MeAlCl₂. Addition of O₂ to I and II facilitates arene dissociation. These results were discussed in terms of the metathesis catalysts formed from LW(CO)₃, RAICl₂, and O₂. W(CO)₆ did not form an adduct with EtAlCl₂.

L4 ANSWER 45 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1983:16806 CAPLUS
DN 98:16806
OREF 98:2727a,2730a
TI Multiple metal-carbon bonds. 27. Preparation of tungsten(VI) phenylimido alkyl and alkylidene complexes
AU Pedersen, Steven F.; Schrock, Richard R.
CS Dep. Chem., Massachusetts Inst. Technol., Cambridge, MA, 02139, USA
SO Journal of the American Chemical Society (1982), 104(26), 7483-91
CODEN: JACSAT; ISSN: 0002-7863
DT Journal
LA English
AB Phenylimido neopentylidene complexes (PhN)W(CHCMe₃)₂L₂C₁₂ (I; L = PMe₃, PEt₃) were prepared by treating (PhN)W(OCMe₃)₄ with (Me₃CCH)TaL₂C₁₃. [(PhN)W(CHCMe₃)₂R]⁺ (R = Cl, Me), (PhN)W(CHCMe₃)(OCMe₃)₂L and (PhN)W(CHCMe₃)(L)C₁₂ were prepared straightforwardly from I. (PhN)WNp₃C₁

(II; $\text{Np} = \text{CH2CMe3}$) was prepared from $(\text{PhN})\text{WCl}_4$ and NpMgCl_1 , and $(\text{PhN})\text{W}(\text{CHCMe}_3)\text{Np}_2$ and $\text{CpW}(\text{NPh})(\text{CHCMe}_3)\text{Np}$ were prepared from II by α -H abstractions. II reacts with L.HCl ($\text{L} = \text{PMe}_3$, py) in the presence of excess L to give I, presumably via unobservable $(\text{PhN})\text{WNp}_2(\text{L})\text{Cl}_2$. $(\text{PhN})\text{W}(\text{CH}_2\text{SiMe}_3)_4$, which can be prepared from $(\text{PhN})\text{W}(\text{CH}_2\text{SiMe}_3)_3\text{Cl}$ and $\text{LiCH}_2\text{SiMe}_3$, decomps. smoothly in a 1st-order reaction to give $(\text{PhN})\text{W}(\text{CHSiMe}_3)(\text{CH}_2\text{SiMe}_3)_2$ while $(\text{PhN})\text{W}(\text{CH}_2\text{SiMe}_3)_2\text{Cl}_2$ reacts with $\text{L} = \text{PMe}_3$ or PEt_3 to give $(\text{PhN})\text{W}(\text{CHSiMe}_3)_2\text{Cl}_2$. The preparation of several miscellaneous phenylimido alkyl complexes such as $(\text{PhN})\text{WR}_3\text{Cl}$ ($\text{R} = \text{Me}$, Bz , Np), and the product of $(\text{PhN})\text{W}(\text{CHCMe}_3)(\text{PMe}_3)_2\text{Me}$ [AlMe_2Cl_2] decomposition, $(\text{PhN})\text{W}(\text{CCMe}_3)(\text{PMe}_3)_2\text{Cl}(\text{AlMe}_2\text{Cl})$ is also reported.

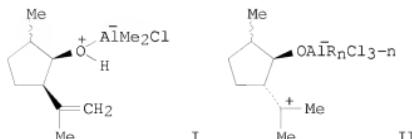
L4 ANSWER 46 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 1982:544902 CAPLUS
 DN 97:144902
 OREF 97:24140h,24141a
 TI Gas-phase positive-ion chemistry of trimethylboron and trimethylaluminum
 AU Kappes, Manfred M.; Uppal, Jack S.; Staley, Ralph H.
 CS Dep. Chem., Massachusetts Inst. Technol., Cambridge, MA, 02139, USA
 SO Organometallics (1982), 1(10), 1303-7
 CODEN: ORGND7; ISSN: 0276-7333
 DT Journal
 LA English
 AB Me_2B^+ and Me_2Al^+ are the principal ions produced by electron impact on Me_3B and Me_3Al , resp. Study of halide transfer to these cations leads to determination of their halide (Cl⁻ and F⁻) affinities. These show .apprx.9 kcal/mol greater stability for Me_2Al^+ compared to Me_2B^+ . Me_3B reacts by Me- transfer with CF_3^+ and CF_2Cl^+ , but not with CCl_3^+ , Me_2CH^+ or CHCl_2^+ , establishing a value for the Me--anion affinity of Me_2B^+ . In a related reaction also involving C-C bond formation, CHCl_2^+ and CFCl_2^+ are alkylated with Me_3Al to give MeCHCl^+ and MeCFCl^+ , resp. Other thermochem. detns. include the hydride affinity of $\text{Me}_2\text{B}:\text{CH}_2^+$. A variety of mols. (L) condense with Me_2B^+ to yield 1-ligand complexes, and with Me_2Al^+ to yield 2-ligand complexes. The relative order of ligand-binding energies for these mols. to both species is determined from the preferred direction of displacement reactions: for $\text{Me}_2\text{B}(\text{L})^+$, $\text{Me}_2\text{S} < \text{MeCN} < \text{PhOMe} < \text{Me}_2\text{O} < \text{PhCN} < \text{pyridine}$, and for $\text{Me}_2\text{Al}(\text{L})^+$, $\text{Me}_3\text{Al} < \text{Me}_2\text{S} < \text{PhOMe} < \text{Me}_2\text{O} < \text{MeCN} < \text{Et}_2\text{O} = (\text{Me}_2\text{CH})_2\text{O} < \text{PhCN} < \text{Me}_3\text{N} < \text{pyridine}$. The relative position of MeCN in these series indicates that Me_2Al^+ is a relatively softer acid than Me_2B^+ or Al^+ .

L4 ANSWER 47 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 1982:122857 CAPLUS
 DN 96:122857
 OREF 96:20181a,20184a
 TI α -Hydride elimination: the first observable equilibria between alkylidene complexes and alkylidyne hydride complexes
 AU Churchill, Melvyn Rowen; Wasserman, Harvey J.; Turner, Howard W.; Schrock, Richard R.
 CS Dep. Chem., State Univ. New York, Buffalo, NY, 14214, USA
 SO Journal of the American Chemical Society (1982), 104(6), 1710-16
 CODEN: JACSAT; ISSN: 0002-7863
 DT Journal
 LA English
 AB $(\text{Me}_3\text{CCH}_2)\text{Ta}(\text{dmpe})\text{Cl}_3$ ($\text{dmpe} = \text{Me}_2\text{PCH}_2\text{CH}_2\text{PMe}_2$) is reduced by Na amalgam in the presence of dmpe to give $(\text{Me}_3\text{CCH}_2)\text{Ta}(\text{dmpe})_2\text{Cl}$ (I). The Me_3CCH_2 ligand is grossly distorted toward a neopentylidyne-hydride system, as evidenced by the low value for νCH_2 (2200 cm⁻¹) and JCH_2 (57 Hz). Addition of $\text{Me}_2\text{AlCl}_3-x$ reagents generates Al-stabilized neopentylidyne hydride complexes. The crystal structure of complex $(\text{Me}_3\text{CC})\text{Ta}(\text{dmpe})_2(\text{ClAlMe}_3)$ was determined. The Ta atom has a

pentagonal-bipyramidal coordination geometry, with 2 dmpe ligands and the hydride ligand $[\text{Ta}-\text{H}] = 1.80$ (5) Å in the equatorial plane. The neopentylidyli ligand $[\text{Ta}.\text{tpibond.C}] = 1.850$ (5) Å and a Cl-AlMe₃ ligand $[\text{Ta}-\text{Cl}] = 2.768$ (2) Å occupy the 2 axial sites. Replacing the chloride in I with iodide produces a product which at 200 K is approx. a 9:1 mixture of $(\text{Me}_3\text{CC})\text{Ta}(\text{H})(\text{dmpe})_2\text{I}$ and $(\text{Me}_3\text{CCH})\text{Ta}(\text{dmpe})_2\text{I}$. At 335 K it is approx. a 1:1 mixture of the 2, and they interconvert rapidly on the NMR time scale. Replacing the chloride with triflate produces a mixture which contains <50% $(\text{Me}_3\text{CCH})\text{Ta}(\text{dmpe})_2(\text{OCSiF}_3)$ at 335 K.

L4 ANSWER 48 OF 79 CALPLUS COPYRIGHT 2008 ACS on STN
 AN 1982:35460 CALPLUS
 DN 96:35460
 OREF 96:5873a,5876a
 TI Synthesis and characterization of tungsten oxo neopentylidene complexes
 AU Wengrovius, Jeffrey H.; Schrock, Richard R.
 CS Dep. Chem., Massachusetts Inst. Technol., Cambridge, MA, 02139, USA
 SO Organometallics (1982), 1(1), 148-55
 CODEN: ORGND7; ISSN: 0276-7333
 DT Journal
 LA English
 AB (Me3CCH₂)Ta(PR₃)₂X₂ (X = Cl, Br; R₃ = Me₃, Et₃, Me₂Ph) react with W(O)(OCMe₃)₄ to give [(Me₃CO)₄TaX₂] and (Me₃CCH₂):W(O)(PR₃)₂X₂ (I). The R₃P ligands in I are trans and the oxo and neopentylidene ligands are cis to one another. Five-coordinate complexes can be prepared by scavenging 1 R₃P ligand with (PhCN)PdCl₂. Addition of 1 or 2 equiv AlCl₃ to I (X = Cl, R = Et) (II) in CH₂C₁₂ yields mono- and dicationic complexes, resp. Adding Me₃Al to II gave unstable [(Me₃CCH₂):W(O)(Me)(PEt₃)₂]⁺ (Me₂AlCl₂)⁻, which on treatment with Me₂NCH₂CH₂NMe₂ (L) yields (Me₃CCH₂):W(O)(L)(Cl)(Me). Attempts to prepare cationic complexes with BF₄⁻ or PF₆⁻ counterions yielded fluoride complexes. Complexes containing tert-butoxide ligands in place of halides were prepared by several routes. Phosphine-free, unstable [(Me₃CCH₂):W(O)(OCMe₃)₂]²⁺ and other phosphine-free complexes [e.g., (Me₃CCH₂):W(O)(L)Cl₂ and (Me₃CCH₂):W(O)(SCNMe₂)₂]²⁻ were also prepared

L4 ANSWER 49 OF 79 CALPLUS COPYRIGHT 2008 ACS on STN
AN 1981:46816 CALPLUS
DN 94:46816
OREF 94:7625a,7628a
TI Alkylaluminum chloride induced cyclization of unsaturated carbonyl compounds
AU Karras, Michael; Snider, Barry B.
CS Dep. Chem., Princeton Univ., Princeton, NJ, 08544, USA
SO Journal of the American Chemical Society (1980), 102(27), 7951-3
CODEN: JACSAT; ISSN: 0002-7863
DT Journal
LA English
GI



AB 2,6-Dimethyl-5-heptenal undergoes a concerted ene reaction with 1 equivalent

of Me₂AlCl at -80° to give I and a cation-olefin cyclization with 2 equivalent of Me₂AlCl, MeAlCl₂, or EtAlCl₂ to give a zwitterion II (R = Me, Et; n = 1, 2) whose further reactions depend on the Lewis acid used and the temperature. 6,7-Unsatd. ketones undergo ene reactions with Me₂AlCl as catalyst whereas 4,5- and 5,6-unsatd. ketones undergo cation-olefin cyclization with 2 equivalent of MeAlCl₂ to give a zwitterion which undergoes a 1,2-hydride shift, followed by a 1,2-Me shift, to give a cyclopentanone.

L4 ANSWER 50 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 1979:23161 CAPLUS
 DN 90:23161
 OREF 90:3835a,3838a
 TI Regiospecific and stereoselective carbometalation of alkynylsilanes by Ziegler-Natta alkylating agents
 AU Eisch, John J.; Manfre, Robert J.; Komar, David A.
 CS Dep. Chem., State Univ. New York, Binghamton, NY, USA
 SO Journal of Organometallic Chemistry (1978), 159(4), C13-C19
 CODEN: JORCAI; ISSN: 0022-328X
 DT Journal
 LA English
 OS CASREACT 90:23161
 AB A 1:1 combination of dichloro(bis- η^5 -cyclopentadienyl)titanium and alkylaluminum halides in methylene chloride solution effects the regiospecific alkylation of alkynyl(trimethyl)silanes in 60-95% yields. With RC₂Al₂Cl₂ substrates, where R = saturated alkyl group, the carbometalation (introduction of a Me or an Et group) occurs regiospecifically and stereoselectively in a trans-manner, giving a 75:25 to a 90:10 ratio of isomers. When the R in RC₂Al₂Cl₂ is Ph or 1-cyclohexenyl, then a non-stereoselective carbometalation is observed (50:50 mixts. of isomers). These results, which are explicable in terms of the formation of the (C₅H₅)₂Ti⁺R cation and its attack on the alkynylsilane, offer stereochem. evidence for a cationic initiating step in the polymerization of ethylene by homogeneous Ziegler-Natta catalysts.

L4 ANSWER 51 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 1978:105552 CAPLUS
 DN 88:105552
 OREF 88:16565a,16568a
 TI Cuprous organoaluminum and cuprous organoboron complexes and uses thereof
 PA Exxon Research and Engineering Co., USA
 SO Brit., 9 pp.
 CODEN: BRXXAA
 DT Patent
 LA English
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI GB 1484775	A	19770908	GB 1975-1067	19750110 <--
PRAI GB 1975-1067	A	19750110		
AB CuAlRC ₂ R ₁ .nL (I; R = Me, Et, iso-Bu; R ₁ = Cl, Br; n = 1, 2; L = cyclohexene, 1-pentene, C ₆ H ₆) were prepared from CuR ₁₂ by treatment with RAICl ₂ in L. CH ₂ :CH ₂ and MeCH:CH ₂ were separated from mixts. with C ₂ H ₆ and propane, resp., by ligand exchange with I. Thus, a mixture of 53 mol % CH ₂ :CH ₂ and 47 mol % C ₂ H ₆ was contacted with CuAlEtCl ₃ .2C ₆ H ₆ at 24° and 1 atm; when the solution was saturated, it was heated to 45° under N ₂ . The decomplexed product contained 95 mol % CH ₂ :CH ₂ . Apparatus for the ligand exchange process is described.				

L4 ANSWER 52 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 1977:535956 CAPLUS
 DN 87:135956
 OREF 87:21557a,21560a

TI Adducts of π -allyl compounds of transition metals, Lewis bases, and/or Lewis acids
 IN Wilke, Guenther
 PA Studiengesellschaft Kohle m.b.H., Fed. Rep. Ger.
 SO Ger., 10 pp. Division of Ger. 1,520,964.
 CODEN: GWXXAW
 DT Patent
 LA German
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 1793788	A1	19741121	DE 1967-1793788	19630810 <--
DE 1793788	B2	19770113		
DE 1793788	C3	19770901		
PRAI DE 1967-1793788	A	19630810		

AB Adducts of π -allylmetal compds. such as LMX (L = π -allyl, M = Cr, Co, Ni, Pd, X = Cl, Br iodo) and L2M, with Al halides such as AlBr3, AlCl3, EtAlCl2, Et2AlCl, and MeAlCl2 catalyzed polymerization and oligomerization of alkenes such as ethylene, propylene, butadiene, cyclohexene, and 1-butene. Adducts of π -allylmetal compds., Al halides, and R3P (R = Ph, cyclohexyl, Et, Me2CH, Et2N, o-cresyloxy, PhO, etc.) similarly catalyzed such polymers.

L4 ANSWER 53 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1977:406204 CAPLUS

DN 87:6204

OREF 87:1005a,1008a

TI Organocupper complexes containing aluminum or boron

PA Exxon Research and Engineering Co., USA

SO Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 51086425	A	19760729	JP 1975-7652	19750117 <--
JP 59038208	B	19840914		
PRAI JP 1975-7652	A	19750117		

AB CuX (X = Cl, Br) and AlRCl2 (R = Me, Et, iso-Bu) were treated at -20° in a solvent Q (Q = C6H6, PhMe, cyclohexene) to give complexes CuAlRCl2X.2Q (I, Q as above), which on treating with propylene (II) or a mixture of II and propane at room temperature, gave I (Q = II), which liberated pure II on heating to 100° . Similarly I (Q = ethylene) was prepared.

L4 ANSWER 54 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1976:560218 CAPLUS

DN 85:160218

OREF 85:25657a,25660a

TI Complexes of carbonyl compounds with RnAlX3-n compounds. IV. The evidence for the formation of cyclic complexes with chloroaluminum compounds

AU Starowieyski, K. B.; Pasynkiewicz, S.; Sporzynski, A.

CS Inst. Org. Chem. Technol., Tech. Univ. Warsaw, Warsaw, Pol.

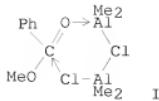
SO Journal of Organometallic Chemistry (1976), 117(2), 117-28

CODEN: JORCAI; ISSN: 0022-328X

DT Journal

LA English

GI



AB Reasonably stable 1:2 complexes (e.g., I) are formed by carbonyl compds. with chloroaluminum compds., usually in equilibrium with a 1:1 complex; however with Me3Al only a 1:1 complex is formed. In the case of complexes with an excess of MeAlCl₂, a disproportionation reaction occurs. Possible structures are discussed in light of PMR and ir spectroscopy, dipole moments and mol. weight determination

L4 ANSWER 55 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1975:479317 CAPLUS

DN 83:79317

OREF 83:12462h,12463a

TI Reactions of methylaluminum compounds with benzyl cyanide

AU Pasynkiewicz, Stanislaw; Kuran, Witold; Zbierzchowska, Anna

CS Inst. Org. Chem. Technol., Tech. Univ. Warsaw, Warsaw, Pol.

SO Justus Liebigs Annalen der Chemie (1975), (4), 636-41

CODEN: JLACBF; ISSN: 0075-4617

DT Journal

LA German

OS CASREACT 83:79317

GI For diagram(s), see printed CA Issue.

AB MeAlCl₂ and Me₂AlCl reacted with PhCH₂CN via elimination of CH₄ and formation of PhCH₂C(:NaAlCl₂)CHPhCN and trimer I and II.

PhCH₂CMe:NaAlMen-1Cl_{3-n} was formed by rearrangement of PhCH₂CN.AlMenCl_{3-n} (n = 1-3).

L4 ANSWER 56 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1975:410398 CAPLUS

DN 83:10398

OREF 83:1749a,1752a

TI Complex aluminum compounds and alkyl phosphorus halides

IN Coates, Harold; Waring, Derek M. H.

PA United Kingdom Ministry of Supply, UK

SO U.S., 2 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 3840576	A	19741008	US 1952-303431	19520808 <--
GB 1344051	A	19740116	GB 1951-18813	19510809 <--

PRAI GB 1951-18813 A 19510809

AB The reaction of MeAlCl₂ with PCl₃ gave MePCl₂.AlCl₃, which, treated with PhCH₂CN gave MePCl₂ (I). Similarly Me₂AlCl and PCl₃ gave [MePCl₂]₂AlCl₃, which, treated with POCl₃ gave I. Methylaluminum sesquichloride and PCl₃ gave [MePCl₂]₃[Al₂Cl₆], which, treated with PhCH₂CN gave I.

L4 ANSWER 57 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1975:410375 CAPLUS

DN 83:10375

OREF 83:1749a,1748a

TI Organometal complexes

IN Kroll, Wolfram R.; Long, Robert B.

PA Exxon Research and Engineering Co., USA
SO U.S., 8 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3868398	A	19750225	US 1970-65557	19700821 <--
PRAI	US 1970-65597	A	19700821		
AB	The complexation of CuCl with RAlCl ₂ in an unsatd. solvent, Q, gave cuprous alkylchloroaluminates, CuAlRC ₁₃ .2Q (R, Q given: Me, toluene; Et, cyclohexene; Me ₂ CHCH ₂ , cyclohexene; Me, 1-pentene). Ethylene was purged of ethane by use of CuAlEtCl ₃ .2benzene and propylene was purged of propane by use of CuAlMeCl ₃ in benzene.				

L4 ANSWER 58 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1974:121098 CAPLUS
DN 80:121098

OREF 80:19495a,19498a

TI Dichloromethylphosphine
IN Coates, Harold; Waring, Derek M. H.
PA Minister of Supply, London
SO Brit., 3 pp.
CODEN: BRXXAA

DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 1344051	A	19740116	GB 1951-18813	19510809 <--
	US 3840576	A	19741008	US 1952-303431	19520808 <--
PRAI	GB 1951-18813	A	19510809		
AB	MeAlCl ₂ , Me ₂ AlCl, or an equimol. mixture of the chlorides with PCl ₃ gave complexes which with PhCH ₂ CN or POCl ₃ gave MePCl ₂ . Thus, 2.36 mole PCl ₃ was treated with 325 g (2.36 mole) MeAlCl ₂ in petroleum ether to give MePCl ₂ .AlCl ₃ . The complex (120 g) was added to 250 ml PhCH ₂ CN at 20-5° to give 80% MePCl ₂ .				

L4 ANSWER 59 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1971:141995 CAPLUS
DN 74:141995

OREF 74:22951a,22954a

TI Complexes of plumbous chloride and dimethyllead dichloride with methylaluminum dichloride
AU Boleslawski, M.; Pasynkiewicz, S.; Pszonka, H.
CS Inst. Org. Chem. Technol., Tech. Univ., Warsaw, Pol.
SO Journal of Organometallic Chemistry (1971), 28(3), C31-C33
CODEN: JORCAI; ISSN: 0022-328X

DT Journal
LA English

AB PbCl₂ and MeAlCl₂ formed the stable complex PbCl₂.2AlMeCl₂; treatment of the latter with PhCN gave PbCl₂ and 2PhCN.AlMeCl₂. Me₂PbCl₂ and MeAlCl₂ yielded the analogous Me₂PbCl₂.2AlMeCl₂, which was associated in C6H₆. The shift in the NMR signal of the Me group on the Al in these complexes, relative to free MeAlCl₂, was comparable to that in 2PhCN.AlMeCl₂.

L4 ANSWER 60 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1968:2989 CAPLUS
DN 68:2989

OREF 68:571a

TI Methyl, aryl, and aralkyl derivs. from metals of Group II-V

IN Sundermeyer, Wolfgang; Verbeek, Wolfgang
PA Th. Goldschmidt AG
SO Ger., 5 pp.
CODEN: GWXXAW
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	DE 1239687	-----	19670503	DE 1965-S95928	19650312 <--
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FR	1470956	-----		FR	
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GB	1132037	-----		GB	
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US	3480654	-----	19691125	US	19660311 <--
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AB The title compds. can be prepared by treating the corresponding Me, aryl, or aralkyl halide with metal halides in molten nonoxidizing salt mixts. For this variation of the classical Wurtz synthesis, the metallic acceptor for halogen can be added to the mixture or can be obtained from the conducting salt by means of electrolysis. The second path yields the acceptor in a highly dispersed form. The metal halide formed during the reaction remains in solution. Thus, 270 g. Al is suspended in 2000 g. of a eutectic mixture from NaCl and AlCl₃. MeCl (180 g.) is passed into the solution over 5 hrs. to yield 96% MeAlCl₂, m. 73°. Similarly, 270 g. Al is suspended in 1919 g. of an equimolar mixture from NaCl and AlCl₃. NaCl (292 g.) is added and at 220° 374 g. MeCl is added. Introduction of 170 g. MeSiCl₃ during 7 hrs. yields 91 g. SiMe₄, b. 26°. Alternatively, 3000 g. of an equimolar mixture from NaCl and AlCl₃ are electrolyzed with 368.2 amp./hr. at 220° for 12 hrs. to give 125.5 g. Al and 447 g. Cl. MeCl (350 g.) is passed into the solution during 4 hrs. and 240 g. SiCl₄ vapor is blown into the solution over 8 hrs. to give 94.5 g. SiMe₄. Me₄Sn is obtained in 95% yield from 220 g. SnCl₄ at 200° using the same procedure; similarly, 99% Me₃B is formed from 138 g. BC₁₃ at 150°. Me₄Ge is obtained in 97% yield from 218.5 g. GeCl₄ at 180° in 5 hrs. and 77.5 g. AsMe₃ from 580 g. AsCl₃ over 10 hrs. Addition of 420 g. of a dry equimolar mixture from ZnCl₂ and KCl after electrolysis and MeCl introduction yields, after a total 8 hrs. at 150°, 76.5% ZnMe₂. By these methods are prepared HgMe₂, Me₂PCl₁.AlCl₃, and Me₂PCl₁.2AlCl₃. Al amalgam from 2600 g. Hg and 300 g. Al is covered with 1500 g. molten NaCl. A mixture from 139 g. MeCl and 137 g. Me₃SiH is stirred into the solution at 220° to give SiMe₄ in 75% yield. Under these conditions only 35% of the starting material reacted. Alternatively, 3.5 moles NaCl/KCl and 10 moles Al are stirred into a molten mixture from 35:15:15 mole % NaCl/KCl/AlCl₃. The mixture is topped with 400 g. PhBr at 140°. Stirring for 10 hrs. yields Na(PhAlCl₂Br). After evaporation of 10% excess PhBr under reduced pressure 125 g. Me₃SiCl₃ is passed into the solution with vigorous stirring to give 97% SiMe₄. Alternatively, 97 g. Mg powder is treated in 2000 g. of an equimolar molten mixture from NaCl and AlCl₃ with 107 g. PhCl at 200°. Subsequently, 80 g. Me₃SiCl₃ are passed into the solution to yield 12 g. SiMe₄, 4 g. Me₃SiCl₃, 28 g. PhSiMe₃, and 13 g. Ph₂. Liquid Sn (1500 g.) is placed into 924 g. KCl and 4550 g. SnCl₂ and 210 g. MeCl passed into the solution at 300° to give 54.5% Me₃SnCl, b. 163-5°. Sn (3800 g.) in a molten mixture from 822 g. LiCl and 938 g. KCl is electrolyzed at 400° until 90 g. Li are dissolved in the Sn. A Si cathode and a W anode are used. Subsequently, 100 g. MeCl and 100 g. MeSiCl₃ are passed into the solution to give 6 g. SiMe₄ and 22 g. Me₃SiCl. If an equimolar mixture from PhCl and Me₃SiCl is used, PhSiMe₃ is obtained in 25% yield. Similarly, 3400 g. Pb is added to a molten mixture from 1055 g. LiCl and 938 g. KCl. Electrolysis is carried out at 400° using Pb as cathode and W as anode. After 60 g. Li passed into the lead, 100 g. MeCl and 100 g. MeSiCl₃ are blown into the solution to give 7 g. SiMe₄ and 31 g. Me₃SiCl. An equimolar mixture from PhCl and Me₃SiCl yields 28% Me₃SiPh. Al (54 g.) is suspended in 80 g. of an equimolar mixture from NaCl and

AlCl₃, 152 g. MeCl passed into the solution at 220°, and 255 g. SiCl₄ added to the closed system over 2 hrs. The pressure rose to 30 atmospheric. After 10 hrs. 60% Me₂SiCl₂, 10% Me₃SiCl, 10% MeSiCl₃ and 20% SiCl₄ are obtained. More Al and MeCl for the same quantity of SiCl₄ and longer reaction times increase the yield of Me₂SiCl₂. Al (54 g.) is suspended in 500 g. of an equimolar mixture from NaBr and AlBr₃ and 150 g. PhBr passed into the solution at 220° to give Na(PhAlBr₃). Addition of 100 g. Me₃SiBr gives 46 g. PhSiBr₃. Sn(CH₂Ph)₄, m. 43°, (67 g.) is obtained when 130 g. PhCH₂Cl is passed into a molten mixture from 924 g. KCl, 4550 g. SnCl₂, and 1500 g. Sn at 300° over 5 hrs.

L4 ANSWER 61 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1967:473640 CAPLUS

DN 67:73640

OREF 67:13867a,13890a

TI Organometallic compounds. XLV. Complex formation and reactions of methylaluminum compounds with diglyme

AU Lehmkuhl, Herbert; Schaefer, Rolf

CS Max-Planck-Inst. Kohlensforsch., Muelheim-Ruhr, Fed. Rep. Ger.

SO Justus Liebigs Annalen der Chemie (1967), 705, 23-31

CODEN: JLACBF; ISSN: 0075-4617

DT Journal

LA German

OS CASREACT 67:73640

AB cf. preceding abstract Complexes were formed from 2,2'-dimethoxydiethyl ether with AlMe₃, AlMe₂Cl, and AlMeCl₂. The 1:2-adducts were stable while the 1:1 and 1:3-complexes gave up excess component on heating in vacuo to form the 1:2-complexes. Disproportionation to Me-richer compds. was observed on heating the complexes of AlMe₂Cl and AlMeCl₂. Diglyme reacted with Al and AlEt₃ to evolve C₂H₄. With AlMe₂H, MeOEt, diglycol mono-Me ether and CH₄ were formed.

L4 ANSWER 62 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1967:463561 CAPLUS

DN 67:63561

OREF 67:11915a,11918a

TI Nuclear magnetic resonance spectra of methyl aluminum chloride-donor complexes in the presence of a small excess of methyl aluminum chloride or donor

AU Wanders, A. C. M.; Konijnenberg, E.

CS Central Lab., Staatsmijnen/DSM, Geleen, Neth.

SO Tetrahedron Letters (1967), (22), 2081-7

CODEN: TELEAY; ISSN: 0040-4039

DT Journal

LA English

AB N.M.R. spectra (A, B, C) of 1.0M MeAlCl₂.(Me₂CH)₂O and 1.0M AlCl₃.(Me₂CH)₂O; of the same mixture and 0.025M (MeAlCl₂)₂; and of the same mixture and 0.05M (Me₂CH)₂O were recorded at 30° in C₆H₆. C showed the characteristic pattern of the iso-Pr₂O group, whereas B showed a superposition of 2 iso-Pr₂O signals with the chemical shift between the tertiary H septets equal to the proton-proton coupling constant (6.6 Hz.). A resembled B with broadened signals and a smaller separation between iso-Pr₂O signals. A and B indicated a net exchange of iso-Pr₂O mols. between the 2 complexes and comparison with C suggested the necessity for the presence of free iso-Pr₂O mols. for the exchange reaction, on the assumption that the exchange of complexed and free iso-Pr₂O mols. is faster than the direct exchange of ether mols. between the 2 complexes. The assumption was confirmed by the temperature dependence of I in which the isopropyl doublets

completely coalesce and the 2 septets broaden and move towards each other, so that at 50° the mean life of an ether mol. bonded to either of the Al compds. is between 0.03 and 0.08 sec. These and other results

(Swift, et al., CA 61: 10207a; Mole and Surtees, 61: 13326b) show that a variety of exchange mechanism must be taken into account.

L4 ANSWER 63 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1967:28882 CAPLUS
DN 66:28882
OREF 66:5515a,5518a
TI Organometallic compounds of aluminum, silicon, germanium, tin, or lead with methyl groups
IN Wartik, Thomas; Barnes, Robert Lee
PA Koppers Co., Inc.
SO U.S., 8 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI US 3288828 19661129 US 19630226 <--

AB The title compds. are useful as fuel additives, catalysts, and intermediates. E.g., 37.4 millimoles aluminum carbide (Al4C3) was placed in the furnace of a dry flow reactor under N, the furnace was heated to 300°, 69.5 millimoles HCl was passed through the furnace at a controlled flow rate under anhydrous oxygen-free conditions, the products were passed through first trap cooled to -78° and a second trap cooled to -196°, and the substances in the first trap were redistilled to yield MeAlCl2 m. 72.5-3.7%. Group IVA metal halides could be methylated by treating Al4C3 and HCl with the Group IVA metal halides. E.g., 3.6 moles HCl, 1 mole Al4C3, and 1.1 moles SiCl4 was treated at 150-200° under anhydrous conditions to yield 44.2 g. MeI-2SiCl3-2 b. 57-62°.

L4 ANSWER 64 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1966:52207 CAPLUS
DN 64:52207
OREF 64:9768c-d
TI Tetraalkyllead process
IN Beaird, Francis M., Jr.; Kobetz, Paul
PA Ethyl Corp.
SO 4 pp.
DT Patent
LA Unavailable
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI US 3226409 19651228 US 1963-318081 19631022 <--

PRAI US 19631022
AB In the process for preparing Me4Pb (CA 57, 16656c) from NaPb alloy and MeCl in an inert solvent in the presence of a catalyst, less difficulty in discharging the reaction mass from the reactor and from fuming of the remaining Al-containing compds. is encountered if the catalyst comprises a trialkylaluminum or alkylaluminum chloride and an alkyl ether polyethylene glycol alcoholate of Na, Li, K, Mg, Ca, or B. When NaPb alloy was treated with a 9-fold excess of MeCl under the usual conditions in the presence of 1.1 weight-% Et3Al and 1.27 weight-% EtO(CH2CH2O)3Na based of NaPb alloy, 93% Me4Pb was obtained. Cf. following abstract

L4 ANSWER 65 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1965:472177 CAPLUS
DN 63:72177
OREF 63:13316b-c
TI Tetramethyllead preparation using alkyl aluminum-amine catalyst systems

IN Baird, Francis M., Jr.; Kobetz, Paul
PA Ethyl Corp.
SO 3 pp.
DT Patent
LA Unavailable
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	-----	-----	-----	-----
PI	US 3188334		19650608	US 1963-318075	19631022 <--
PRAI	US		19631022		

AB *Me4Pb is prepared by the reaction of $McCl$ with an alkali metal Pb alloy in the presence of an alkylaluminum compound and using lower alkyl amines as adjuvants. E.g., when the basic procedure of U.S. 3,188,332 is modified to use only 0.46 weight-% $Me_3Al_2Cl_3$ and 0.5 mole Bu_3N per g.-atom Al, a yield of 70.5% Me_4Pb was obtained although the catalyst level was only half the normal amount. The reaction mass did not smoke or fume when exposed to a gaseous atmospheric*

L4 ANSWER 66 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1964:429924 CAPLUS

DN 61:29924

OREF 61:5179b-e

TI Identification of bond types in aluminum and titanium compounds and complexes

AU Sakurada, Yutaka; Huggins, Maurice L.; Anderson, William R., Jr.

CS Inst., Menlo Park, CA

SO Journal of Physical Chemistry (1964), 68(7), 1934-43

CODEN: JPCHAX; ISSN: 0022-3654

DT Journal

LA Unavailable

GI For diagram(s), see printed CA Issue.

AB The structures of Me_3Al chlorides and oxidized $AlMe_3$, and the homogeneous reactions of Al_2Me compds. with $TiCl_4$ and with $TiCl_3$ in tetrahydrofuran (THF) were studied, using n.m.r. (nuclear magnetic resonance) spectra, supplemented by x-ray, infrared, and magnetic susceptibility data. From systematic n.m.r. studies of Me_3Al chlorides, $Al_2Me_3Cl_6-n$ ($n = 2, 3, 4, 5$, and 6), it is concluded that $Al_2Me_3Cl_3$ has structure I, and that Al_2Me_5Cl consists of an equimolar mixture of III and IV. Structure II has, at most, only a transitory existence. Although rapid intermol. and intramol. exchange of Me are indicated in Me_3Al chlorides, $Al_2Me_3Cl_6-n$ ($n = 2, 3, 4, 5$, and 6), there appears to be no rapid intermol. exchange of Me attached to Al and Me of methoxy groups, in hydrocarbon solns. containing Al_2Me_6 and $(AlMe_2OMe)_3$, at room temperature. In homogeneous solution in THF at room temperature,

$AlMe_3$ (or $AlMe_2Cl$) reacts with $TiCl_4$ to produce $AlMe_2Cl_1$ (or $AlMe_2Cl_2$), $TiCl_3$, and CH_4 . Reaction between $AlMe_3$ or $AlMe_2Cl_1$ and $TiCl_3$ also proceeds homogeneously in THF. Magnetic susceptibilities of the reaction solns., confirmed by measurements of the chemical shifts in the n.m.r. spectra for the Me protons of Me_3Al compds., show that the valence state of Ti is still trivalent after these reactions. Evidence for the existence of $TiCl_2Me$ was obtained, but no pos. evidence for a complex compound including the 2 different metal atoms, Al and Ti .

L4 ANSWER 67 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1963:403882 CAPLUS

DN 59:3882

OREF 59:765c-e

TI Reaction of α -olefins with soluble catalysts of the Ziegler type and the initiation mechanism of ethylene polymerization

AU Shilov, A. E.; Shilova, A. K.; Bobkov, B. N.

SO Vysokomolekulyarnye Soedineniya (1962), 4, 1688-95

CODEN: VMSDA8; ISSN: 0042-9368

DT Journal
LA Unavailable
AB The hypothesis of the ionic mechanism of initiation of polymerization of α -olefins by the dicyclopentadienyltitanium dichloride-Me₂AlCl system was proved exptl. The spectrum of the system in C₆H₆ showed the presence of the complex (C₅H₅)₂Ti(Me)Cl-MeAlCl₂ (I). Reduction of I in the presence of an α -olefin gave (C₅H₅)₂TiCl₂.AlCl₂ (R = alkyl or halogen). By analyzing the gaseous products of I with C₃H₆, it was assumed that after introducing α -olefin on the Ti-Me bond, the reaction proceeds according to the mechanism of intramol. disproportionation. 2(C₅H₅)₂Ti(Me)Cl₂ + CH₂:CHR → 2(C₅H₅)₂TiCl₂Al(Me)Cl₂ + CH₄ + CH₂:C(Me)R. In the reaction of I with heptene, there was a linear dependence of [I]^{1/2} on time. Over a wide range, the velocity constant was proportional to the concentration of heptene. Concns. of Me₂AlCl with ratios of Al:Ti from 2:1 to 15:1 exerted little effect on velocity of Ti reduction. The velocity of reduction of the system in the presence of α -heptene and the velocity of polymerization of C₂H₄ were proportional to the increase in elec. conductivity during formation of I.

L4 ANSWER 68 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1963:400497 CAPLUS

DN 59:497

OREF 59:67d,68a-b

TI Coordination polymerization of olefins. Catalyst studies. I. The infrared spectroscopic investigation of the systems (CH₃)₃Al-TiCl₄ and (CH₃)₂Zn-TiCl₄

AU Gray, A. F.; Callear, A. B.; Edgecombe, F. H. C.

CS Du Pont Ltd., Kingston

SO Canadian Journal of Chemistry (1963), 41, 1502-10

CODEN: CJCHAG; ISSN: 0008-4042

DT Journal

LA Unavailable

AB An infrared spectroscopic investigation of the reaction between TiCl₄ and Me₃Al in the vapor phase was carried out at 6 different reactant ratios. The study defined the course of the initial reactions; demonstrated the importance of equilibrium among the products in this system as contrasted with Me₂Zn-TiCl₄; indicated the relative alkylating power of trimethyl, dimethylchloro, and methylchloro aluminum toward TiCl₄ and MeTiCl₃; and supported the view that the active catalyst site in such systems is the Ti-C bond in reduced titanium alkyls. A new mode of decomposition of MeTiCl₃ leading to active catalysts was found which can account for reported variable catalyst activities at Al/Ti ratios less than 1. Individual infrared spectra in the range 1500 to 300 cm.⁻¹ for Me₃Al, Me₂AlCl, MeAlCl₂, MeTiCl₃, and Me₂TiCl₂, as well as those of the initial reaction mixts., are presented.

L4 ANSWER 69 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1962:23081 CAPLUS

DN 56:23081

OREF 56:4347g-h

TI Alkyl aluminum halide complexes with alkali metal halides

AU Sleddon, G. J.

CS Imperial Chem. Inds., Ltd., Stevenston, UK

SO Chemistry & Industry (London, United Kingdom) (1961) 1492-3

CODEN: CHINAG; ISSN: 0009-3068

DT Journal

LA Unavailable

AB The complexes MRAIX₃, M = Li, Na, or K; R = Me or Et; X = Cl or Br, were prepared by heating together the alkyl halide and MeAlX₂ or EtAlX₂ in an inert atmospheric. With Na and K halides 2 layers formed, with the complex in the

lower one. The complexes are white or gray solids, slightly soluble in hydrocarbon, stable at atmospheric pressure but disproportionating and dissociating

at lower pressures. They react with air but do not ignite spontaneously; they react violently with H₂O and lower alcs. M.ps. are: K(CH₃) AlC₁₃, 150°; Na(CH₃) AlC₁₃, 125°; Li(CH₃) AlC₁₃, 74°; K(C₃H₅) AlC₁₃, 94°; Na(C₂H₅) AlC₁₃, 73°; Li(C₂H₅) AlC₁₃, 33°.

L4 ANSWER 70 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1961:48356 CAPLUS

DN 55:48356

OREF 55:9282e-g

TI Group IIB organometallic compounds

IN Blitzer, Sidney M.; Pearson, Tillmen H.

PA Ethyl Corp.

DT Patent

LA Unavailable

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2969381		19610124	US 1959-810235	19590501 <--

AB The title compds. are made by the reaction between the Zn, Cd, or Hg salts of organic acids and an organo B or Al compound. Thus, Et₃B 3.9, Hg(OAc)₂ 6.4, and MeOCH₂CH₂OMe 70 is stirred under an inert atmospheric, refluxed 2 hrs., after

cooling OH 5 in H₂O 15 added, the heavy liquid phase at the bottom of the reactor withdrawn, and distilled to yield Et₂Hg 3.4 parts. The following compds. are similarly made (compound, group IIB salt, B or Al compound, and diluent given): Et₂Hg, Hg(OAc)₂, Et₃Al, MeOCH₂CH₂OMe; Et₂Cd, Cd(OAc)₂, Et₃Al, Nujol; Et₂Zn, Zn(OAc)₂, Et₃Al, Nujol; (n-C₈H₁₇)₂Hg, Hg(OPh)₂, (n-C₈H₁₇)₃B, (MeOCH₂CH₂)₂O; (CH₂:CH)Hg, (n-C₇H₁₅COO)₂Hg, (CH₂:CH)₃B, Et₃N; Et₂Hg, Hg(OAc)₂, NaBEt₄, tetrahydrofuran. Higher yields, purer products, and faster reaction rates make this method superior to those based on alkyl halides or Grignard reagents.

L4 ANSWER 71 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1960:33841 CAPLUS

DN 54:33841

OREF 54:65221,6523a-d

TI Preparation and ignition properties of aluminum alkyls

AU Marsel, Charles J.; Kalil, Emil O.; Reidlinger, Anthony; Kramer, Leonard

CS New York Univ., New York, NY

SO Advances in Chem. Ser. (1959), 23, 172-83

DT Journal

LA Unavailable

AB To 4 lb. Al turnings in a 12 l. flask, connected to an efficient fractionating column, was added 2 lb. MeI, the whole refluxed until reaction was initiated, 23 lb. MeI added to keep pot temperature at 160° (external heating 24-48 hrs. usually necessary), and the whole distilled to give 50-65% Me₃Al (I), b₁₀₀ 69-72°. Alternately, 320 g. Al foil, cut in small pieces, was treated 1st. with 5-6 ml. MeI, the reaction initiated by heat (temperature rise to 150°) the source of heat removed until the reaction subsided, MeCl introduced so that the internal pressure was equal to or greater than atmospheric pressure, and the temperature kept at 90-120° about 20 hrs. to give 100% mixture (II) of Me₂AlCl and MeAlCl₂. To 24 g. Na under N was added 100 g. II, the whole heated to initiate the reaction (95-100°), the exothermic reaction allowed to subside, and the mixture refluxed 5 hrs. to give 90% I. Al₂Mg (60 g.) was treated 1st with a little MeI to initiate the reaction and then with MeCl for about 30 hrs. to give 80% Me₂AlCl, b. 126-7°. I was unaffected when kept 2 hrs. at 300°F. in an autoclave, but about 30% decomposition

occurred after 6 hrs. at 450°F. and Et3Al was unchanged after 2 hrs. at 300°F. I was without effect in most metals but it attacked plastics (except Kel F and Teflon), silicon rubbers, synthetic and natural rubbers. When I was sprayed into air at 450°F., spontaneous ignition occurred after 0.013 sec. delay; a comparison of delay in ignition (sec.) under the same conditions for several other organometallic compds. was: Me2AlCl, 0.020; Et3Al, 0.040; Et2AlBr, 0.150; Et2Zn, smoke after 0.040; Et3B, 0.020 and (Me2CHCH2)3Al, smoke only. The effects of temperature and pressure on the ignition of I were as follows [temperature (F.), absolute press. (inches Hg), and ignition delay (msec.) given]: 455-60°, 2, 21; 450-60°, 5, 13; 445-60°, 30, 3; and 350-65°, 5, 15. The literature was reviewed. 12 references.

L4 ANSWER 72 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1959:44791 CAPLUS

DN 53:44791

OREF 53:7990b-c

TI Aluminum haloorganic compounds

PA Badische Anilin- & Soda-Fabrik Akt.-Ges.

DT Patent

LA Unavailable

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI GB 804059	-----	19581105	GB 1956-31572	19561017 <--
AB R(R'O)AlX, R(ArO)AlX, and RAlX2, where R is an alkyl group, Ar an aryl group, and X a halogen, may be prepared by the reaction of Al or Al-Mg with AlX3 and a dialkyl or alkyl aryl ether at 100-220°/to 100 atmospheric E.g., AlCl3 40, coarse Al powder 20, and Et2O 150 was heated 8 hrs. at 170° in an autoclave to yield Et(EtO)AlCl 96 parts, b1 85°.				

L4 ANSWER 73 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1958:92411 CAPLUS

DN 52:92411

OREF 52:16202d-e

TI Alkyaluminum dihalides

PA Esso Research and Engineering Co.

DT Patent

LA Unavailable

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI GB 790822	-----	19580219	GB 1956-20578	19560703 <--
AB MeAlCl2 (I) and EtAlCl2 (II) are prepared in a one-step reaction. When MeCl is passed into 100 g. Al powder, 247 g. AlCl3, and 1 ml. MeI in a flask equipped with Dry Ice condensers, the temperature rises from 61° to 123°. Distillation of the product yields 300 g. I, b100 99-100°, m. 73°. Similarly from Al, AlCl3, EtI, and EtCl is prepared II, b50 105-15°, b0.2 36-46.5°. The AlCl3 can be added incrementally. The products can be extracted from the mixture with n-C7H16.				

L4 ANSWER 74 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1958:92410 CAPLUS

DN 52:92410

OREF 52:16202c-d

TI Organic compounds of aluminum

IN Ziegler, Karl; Koster, Roland; Lehmkuhl, Herbert

DT Patent

LA Unavailable

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI US 2844615 19580722 US 1953-379294 19530909 <--
AN 1957:1529 CAPLUS
DN 51:1529
OREF 51:257a-d

L4 ANSWER 75 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1957:1529 CAPLUS
DN 51:1529
OREF 51:257a-d
TI Organosilicon compounds. IX. Gas-phase methylation of chlorosilanes
AU Beranek, Ludvik; Bazant, Vladimir
CS Czech, Acad. Sci., Prague
SO Chemische Listy pro Vedu a Prumysl (1956), 50, 1250-60
CODEN: CLPRAN; ISSN: 0366-6832
DT Journal
LA Unavailable
AB cf. C.A. 50, 14446f. A study of reaction conditions on the course of methylation in the presence of Al supports the reaction scheme suggested by Hurd (C.A. 40, 64977). Treatment of 82.9 g. Al shavings with 153.0 g. MeCl in a Mo glass tube at 345° gave 0.8 g. Me₂AlCl, 137.5 g. MeAlCl₂, 18.1 g. AlCl₃, 18.8 g. CH₄, 1.9 g. C₂H₆, 1.1 g. C₂H₄, 0.48 g. H, 0.33 g. HCl, and 46.3 g.C. With rising temperature the yields were lowered. Similarly methylated was MeSiCl₃ to Me₂SiCl₂, Me₃SiCl, and Me₄Si in amts. that varied according to the exptl. conditions. Addition of H brought about an increased conversion. Methylation of Et₂SiCl₂ at 350° gave Me₃SiCl (3.6), Me₃SiEt (10.3), Me₂Et₂SiCl (12.4), MeEt₂SiCl (I) (10.9), and Et₃SiCl (23.28). Ph₂SiCl₂ was methylated at 360°, the reaction product dissolved in dry Et₂O, ethylated with EtMgCl, and hydrolyzed with 5% HCl to yield 50.7 g. C₆H₆, 13.3 g. PhMe, 20.5 g. MeEt₂SiPh (II), 7.3 g. PhSiEt₃, 4.4 g. MePh₂SiEt, and 34.35 g. Ph₂SiEt₂, besides small amts. of Me₂SiEt₂ and MeSiEt₃ and a polymerized thermoplastic residue, b. above 300°, containing 18.43% Si. II, b. 209.5-10.0°, d₂₀₂₀ 0.8886, n_{D20} 1.4975, was identified by heating 6.31 g. II to 70° for 10 min. with 8.5 mL. concentrated H₂SO₄ and diluting the mixture with 43.5 mL.

H2O to
give 2.9 g. MeEt₂SiOSiEt₂Me (III), b. 188-90°, d₂₀₂₀ 0.8388, n_{D20} 1.4199. Treatment of 2.48 g. III dissolved in 4.2 mL. 98.6% H₂SO₄ with 1.9 g. powdered NH₄Cl under stirring and cooling yielded 1.58 g. I.

L4 ANSWER 76 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1956:20180 CAPLUS
DN 50:20180
OREF 50:4197a

TI Methylaluminum dichloride
IN Coates, Harold; Hunter, Wm. H.; Topley, Bryan
PA Minister of Supply
DT Patent
LA Unavailable
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI US 2712546		19550705	US 1952-308725	19520909 <--
AB See Brit. 718,198 (C.A. 49, 14023f).				

L4 ANSWER 77 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1955:73613 CAPLUS
DN 49:73613
OREF 49:14023f-g

TI Methylaluminum dichloride
IN Coates, Harold; Hunter, Wm. H.; Topley, Bryan
PA Minister of Supply
DT Patent
LA Unavailable

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI GB 718198	19541110	GB 1951-29139		19511212 <--
AB Me ₂ AlCl (I) or mixed I and MeAlCl ₂ (II) in C ₆ H ₆ treated slowly at 0° with Cl in C ₆ H ₆ with stirring is converted to II, recoverable by distillation, and the MeCl produced recycled. (Another way to manufacture II is to				

treat Al with Cl and MeCl.) Thus I 113 g. in C₆H₆ 222 g. at 0° treated with Cl 87 g. in C₆H₆ 300 cc. the C₆H₆ distilled off after the reaction and the residue fractionated yielded 116 g. II. Cf. C.A. 46, 887d.

L4 ANSWER 78 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 1952:5274 CAPLUS
 DN 46:5274
 OREF 46:887d-i
 TI Ketones from acyl chlorides and alkyl aluminum chlorides. A selective keto-ester synthesis

AU Adkins, Homer; Scanley, Clyde
 CS Univ. of Wisconsin, Madison
 SO Journal of the American Chemical Society (1951), 73, 2854-6
 CODEN: JACSAT; ISSN: 0002-7863

DT Journal
 LA Unavailable
 OS CASREACT 46:5274

AB p-NCC6H₄Me with CrO₃ in AcOH-H₂SO₄ yielded p-NCC6H₄CO₂H (I), m. 218.5-19.3° (corrected). I refluxed 4 hrs. with 7 equivs. of SOC₁₂ yielded the acid chloride (II). Convenient procedures are described for the preparation of MeAlCl₂ (III), Me₂AlCl (IV), Me₂AlCl.MeAlCl₂ (V), and EtAlCl₂ (VI). Attempts to prepare the Pr and Bu compds. were unsuccessful. With simple acid chlorides, RCOCl, only 0.6 mol. III is required for the preparation of the corresponding ketone, RCOMe, with a carbalkoxyacyl chloride, R'OC(CH₂)_nCOCl, an addn. equivalent of III is required because it forms a complex with the ester: 1.1 mole III (35% in C₆H₆) added slowly under N (10-15°) to 0.5 mole ester acid chloride in 1-4 vols. C₆H₆, and the solution allowed to stand at room temperature 2 hrs., and then run into 500 g.

ice, or water below 30°, yielded the ketone (Table I). III (27.1 g. as 39% solution in C₆H₆) added at 45° during 12 min. to 12.2 g. in 150 cc. C₆H₆, the mixture allowed to stand 30 min. at 50°, hydrolyzed below 30°, and the C₆H₆ layer distilled yielded 2.45 g. product, b₁₅ 210° (not investigated), and 11.9 g. p-cyanobenzophenone, m. 113.5-14.5° (from 60% EtOH); oxime, m. 171.5-4.5°. Table I, RCOCl, Semicarbazone, R Al halide, R, Product, Yield (%), B. p./mm., n_{D25}, m.p.; III, Ph, BzMe, 81, 88-90°/17, 1.5323, 200-1°; V, Ph, BzEt, 89, 139-42°/79, 1.5253, 177.5-8.5°; III, Pr, PrAc, 70, 99-101°/740, -, 109.5-10.5°; IV, Pr, PrAc, 65, 99-101°/740, -, 109.5-10.5°; III, 9-phenanthryl, C₁₄H₉Ac, 78, 187°/1, -, oxime 152.5-3.5°; V, 9-phenanthryl, C₁₄H₉COEt, 86, 185°/1, -, 53.6-4.7° (free ketone); III, -(CH₂)₄-Ac(CH₂)₄Ac, 35, 115°/13, -, 41-2.5° (free ketone) dioxime 148-51°; III, (CH₂)₈CO₂Et, Ac(CH₂)₈CO₂Et, 93, 118-23°/2, 1.4398, 112.5-13.6°; V, (CH₂)₈CO₂Et, EtCO(CH₂)₈CO₂Et, 94, 133-6°/2, 1.4411, 164.5-66° (free acid); III, (CH₂)₂CO₂Et, Ac(CH₂)₂CO₂Et, 36, 103-4°/25, 1.4214, 100.5-1.5° (a); Bz(CH₂)₂CO₂Et, 38, 125-7°/2, 1.5189, 116-18° (free acid); III, (CH₂)₂CO₂Me, Ac(CH₂)₂CO₂Me, 24, 80.5-81°/12, -, 129.5-31.0° (oxime of free acid); III, (CH₂)₄CO₂Et, Ac(CH₂)₄CO₂Et, 92-5, 73°/1, 1.4304, -, V, (CH₂)₄CO₂Et, Ac(CH₂)₄CO₂Et, 90, 73°/1, 1.4308, -, VI, (CH₂)₄CO₂Et, EtCO(CH₂)₄CO₂Et, 94, 88-93°/2, 1.4329, 88-8.6°; (a)

2,4-Dinitrophenylhydrazone.

L4 ANSWER 79 OF 79 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1940:21187 CAPLUS
DN 34:21187
OREF 34:3236a-i,3237a-b
TI Organoaluminum compounds. I. Methods of preparation
AU Grosse, Aristid V.; Mavity, Julian M.
SO Journal of Organic Chemistry (1940), 5, 106-21
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA Unavailable
AB After a review of the literature on organoaluminum compds. the various methods for their preparation, viz., the reaction of alkyl or aryl halides with Al (I), the reaction of 2 or more Al compds. with each other to produce another (II), and the use of other metals (III), are described and the possible number of compds. formed in these reactions is illustrated. Since organoaluminum compds. are decomposed by moisture and by O the reactions are carried out in an inert dry atmospheric. The aliphatic compds. are analyzed by measuring the hydrocarbons evolved on hydrolysis, the aromatic and some aliphatic by determination of the halogen or the Al as 8-hydroxyquinolate. In method I the reaction is carried out in an all-glass apparatus equipped with a stirrer and under cooling. EtCl and Al give a mixture of EtAlCl₂ (IV) and Et₂AlCl (V) which when distilled, using a Podbielniak column, b20 120-2°, with IV concentrating in the lower-boiling fractions. MeCl and Al give a mixture of Me₂AlCl (VI), b100 70-6°, b200 83-4°, and MeAlCl₂ (VII) which are separated by fractional distillation VII b100 97-101°, m. 72.7° after crystallization from C₅H₁₂. MeBr and Al give Me₂AlBr, b50 74-7°, which crystallizes on cooling with dry ice, and MeAlBr₂, b50 124-39°, m. 79° after crystallization from C₅H₁₂. Some disproportionation occurs during the distillation PrI and Al give a mixture of Pr₂AlI (VIII) and PrAlI₂ (IX) which can be partially separated into 6 fractions: (1) b1.0-0.8 80-128°, containing 77.4% VIII and 22.6% IX; (2) b0.8-0.7 128°, containing 62.9% VIII and 37.1% IX; (3) b0.7-0.5 128-7°; (4) b0.5-0.7 127-42°; (5) b0.7-0.5 142-3° containing 2.5% VIII and 97.5% IX; and (6) b0.5-0.4 143-39° containing 73.7% IX and 26.3% AlI₃. The latter is due to disproportionation. The purest IX, crystallized from C₅H₁₂, m. 3-4°. MeI and Al give a mixture which on distillation at 50 mm. decomp. by disproportionation and gives chiefly Me₂AlI, b50 109-10.5°, Me₃Al and AlI₃. EtBr and EtI readily react with Al but no satisfactory separation of the mono- and dialkyl compds. can be obtained. For the next Al derivs. method II is used. When an Et Al sesquichloride (X) distillate containing 21.17 g. V and 36.43 g. IV is heated with 22.8 g. AlCl₃ at 180-90° until a clear solution is obtained, 57.16 g. IV, b50 114.5-15.5°, m. 32°, is obtained. When to X containing 17.3 g. V and 26 g. IV, 23.09 g. Et₃Al is added, the mixture becomes hot and on fractionation V, b50 125-6°, in 77% yield, is obtained. Et Al sesquibromide (XI) and AlBr₃ similarly give EtAlBr₂, b10 120-2.5°, m. 23.5-4.4°. When 18.4 g. Me₂AlI and 38.5 g. AlI₃ are melted together at 170° and distilled at 0.2 mm., strong disproportionation takes place and 11.9 g. MeAlI₂, m. 68-71°, is obtained. Distillation of a mixture of 10 g. Et₃Al and 17.5 g. AlI₃ gives Et₂AlI. On vacuum fractionation of Et Al sesquichloride disproportionation occurs and fractions containing 97-8% EtAlI₂ and 2-3% Et₂AlI are obtained from which on repeated crystallization from C₅H₁₂, EtAlI₂, m. 39-40°, can be isolated. When a mixture of 6.63 g. Ph₃Al and 6.92 g. AlCl₃ is heated for 20 min. at 200° and then distilled in vacuo, a fraction (2.79 g.) b7-15 103-77°, and a fraction (7.87 g.) b15-0.5 177-208° are obtained. The latter, PhAlCl₂, recrystd. from C₆H₆, m. 93-5.5°.

Sublimation gives white needles, m. 94-5°. In a similar way PhAlBr₂, m. 73.5-8°, is obtained. PhAlI₂ is prepared from Ph Al sesquiiodide and AlI₃ by heating the mixture for 0.5 hr. at 100° until it becomes completely liquid. It is dissolved in C₆H₆, filtered and concentrated. On standing, PhAlI₂ crystallizes in white prisms, m. 106-10°. p-MeC₆H₄AlI₂ prepared in a similar way m. 140-5°. When 5.8 g. Al(OMe)₃ and 6.95 g. Me₃Al are gradually mixed, considerable heat is evolved. The mixture is heated for 20 min. at 100° and finally at 135°. On distillation the fraction b₁₀ 87-8° consists of Me₂AlOMe, m. 30-3°. MeAl(OMe)₂ is prepared by mixing 6.5 g. Me₃Al and 21.7 g. Al(OMe)₃ and heating the mixture at 280°. On heating a mixture of 3.34 g. Al(OEt)₃ and 4.5 g. AlEt₃ at 170° and distillation, Et₂AlOB_t, b₁₀ 108-9°, m. 2.5-4.5°, is obtained. EtAl(OEt)₂, b₁ 137°, is prepared in a similar way from 15.24 g. Al(OEt)₃ and 5.62 g. AlEt₃. By method III, the following Al derivs. are prepared: Et₂AlBr (XII) is prepared by gradual addition of 496 g. EtBr to 107 g. magnesium turnings (30% Mg, 70% Al) with I as catalyst. The mixture is then heated for 1 hr. at 120-40° and distilled XII b₂ 75°; the yield is 91%. When 150 g. XII is added to 50.3 g. Na ribbon and the mixture heated to 105°, a vigorous reaction sets in. After this has ceased 186 g. more XII is added, it is then heated first for 1 hr. at 110°, then for 16 hrs. at 200-10° and distilled at 2 mm. The distillate (107.4 g.) is retreated with Na and finally fractionated through a Podbielniak column. AlEt₃ b₅₀ 128-30°. When XI is treated with Na, XII, b₅₀ 147-8°, is formed. Treatment of Me Al sesquichloride and Na, followed by a treatment with Na-K (23% K) gives AlMe₃, b₇₅₅ 125-6°, in 63% yield. It crystallizes on cooling. PrI and magnesium give VIII, b_{4.2-4.7} 153-6°, in 66% yield.

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DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-63.20	-63.20

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